



United States
Department of
Agriculture

Forest Service

Pacific
Northwest
Region

Deschutes
National Forest



Final Environmental Impact Statement

APPENDIX J Response to Public Comment

Land and Resource Management Plan

Deschutes National Forest



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Public Participation in Forest Plan Development

Public Participation Philosophy

The Deschutes National Forest was one of a handful of National Forests selected as lead Forests after passage of the National Forest Management Act (NFMA). The Forest was just completing a Land Use Plan (Plan) under the old unit planning concept. Considerable public involvement work had already occurred.

With the lead Forest designation efforts geared up to meet the intent of NFMA regarding public participation, Forest leaders recognized it was important to keep the public informed and solicit public input. The Forest worked to culture an atmosphere of open, candid, and continuous communication. The Forest kicked off the NFMA effort with a newsletter entitled "Forest Plan Report." That newsletter has been a key part of the

communication effort. Issues have occurred at least twice a year since inception. It is intended that once the Plan is finished a new communication vehicle will be put in place similar to the Report.

When the Forest conducted major public review efforts for 1982-1983 and 1986 Draft Environmental Impact Statements (DEIS), they planned for longer than minimum review periods. This was done because of public interest, document and issues complexity, season of the year and concern for adequate review.

Throughout the over 10 year process Forest personnel met informally with individuals and organizations. People have been invited to continue dialogue even though there were not any participation activities planned.

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Public Participation Activities (from start of planning through DEIS)

Issue Identification (November 1978)

Activities

In November, 1978, the Forest mailed a list of 28 issues/concerns prepared by the Forest Interdisciplinary Team (ID Team) to approximately 850 organizations and individuals. Copies were also provided to state and federal agencies as well as other Forest Service offices. A request for written response to these issues resulted in the return of 59 response forms and letters.

Additionally, workshops were held in seven locations (La Pine, Crescent, Bend, Sisters, Eugene, Portland, and Redmond) to determine the concerns and issues most important to the attendees. One hundred and nine persons attended these workshops. A summary of the public involvement is included with this report.

During January and February of 1979, the public input was analyzed and used by the ID Team to evaluate and revise the original list of 28 issues.

Public comment concerning the initial list of issues prepared by the Forest resulted in changes to 11 of the 28 issues. A large percentage of the written responses confirmed the importance of each of the issues considered, so none were deleted. Although several changes were made in considering different aspects of the listed issues, public comments did not seem to require any additional issue statements.

Some of the major changes in the issues were as follows:

Issue 12, "How long should the Forest continue to allocate land for recreation residence (summer home) use?" drew perhaps the strongest criticism. Public comments indicated the wording of the statement tended to prejudice the consideration of the issue. The issue as written seemed to say the Forest will eventually foreclose all recreational residence use, the question being only when. The issue statement was reworded to reflect that

concern. The new issue statement was, "Should the Forest continue to use land for recreation residences (summer homes)?" The questions under *Looking at the Issue* were similarly revised. The issue of summer home residences in general will be discussed later in this report.

Several comments reflected a need to insure that highly productive commercial timber land is seriously considered for uses other than timber production. In issue seven, the question is now asked, "Should all highly productive commercial timber land be allocated to timber production?"

Concern was also expressed that the needs of special interest recreational groups (i.e., horse groups, off road vehicle (ORV) clubs, snowmobile groups) would be adequately addressed in the Plan. In response, the question "Is there a need to provide facilities for Forest recreation groups, i.e., horse groups, backpackers, trailers, ORV, etc.?" was added to issue number 9. Similar questions were added to issue numbers 14 and 18.

Issue number 23 concerning fire management was reworded from simply asking the question, "How acceptable is the role of fire in management of the Forest?" to a much more specific statement asking how to integrate the role of fire management into the Forest Plan. The new statement reads, "What are the fire management goals that are responsive to and supportive of the expected outcomes from land and resource management?" Comments from the Pacific Northwest Regional Office of the Forest Service prompted this change.

From 1979 until release of the first DEIS in 1982 numerous issues of "Forest Plan Report" were produced. These provided people with updated information on the planning process.

Public Involvement Summary (January 1979)

There were 7 public workshops held, with a total attendance (excluding Forest Service personnel) of 109. At these workshops, 17 issues lists were produced by workshop groups, and 84 issue cards were collected from individual attendees. The "Forest Plan Report" announcing the workshops, and requesting input on the issues, was

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mailed to approximately 850 individuals and organizations on the Forest mailing lists. The Forest received 46 returned response forms, 8 personal letters, and 5 letters from government agencies.

From this input, a total of 560 individual comments were identified and coded for analysis and evaluation.

The following charts show the geographical, and interest spread of the workshop attendees, and responses.

Public Workshop Attendance

Interest Category*

Location	Date	Gov.	Ind.	Rec.	Env.	Private	News	Total
LaPine	12/11/78	1	2			3		6
Crescent	12/12/78		1			5		6
Sisters	12/13/78		1	3		19		23
Bend	12/14/78		2	1	6	10	1	20
Eugene	12/18/78	1	1	8	8	16	1	35
Portland	12/19/78		1	3	1	13		18
Redmond	12/20/78						1	1
Totals		2	8	15	15	66	3	109

*Abbreviations Key:

- Gov.** = Government representative
- Ind.** = Industry representative
- Rec.** = Recreationist group representative
- Env.** = Environmentalist group (other than USFS)
- Private** = Private individual
- News** = Press and broadcast media representatives

In the public comment analysis, approximately 560 separate comments were isolated pertinent to identification of issues and concerns. Approximately 120 of the 560 comments could be considered approaches (they seemed to express an opinion of how the Forest or resource should be managed rather than simply posing a question or concern).

Some examples of these approaches are as follows:

"Investment in timber should be at better growing sites."

"Don't experiment with Mt Hemlock clearcuts "

"More developed recreational facilities should be developed."

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"Allocate new areas for all year recreation."

"Maintain summer home leases at reasonable lease charges."

"Roadless areas should be preserved for wilderness values."

DEIS Release (December 1982)

Activities

The first DEIS was released in late December 1982. Information meetings were held during January, 1983, on the DEIS and Draft Forest Plan for the Deschutes National Forest. They were scheduled in Bend, Crescent, Eugene, LaPine, Portland, Madras, Redmond and Sisters. Although no formal presentations were made, Forest Specialists were available to answer questions. In addition, displays described the Alternatives and the differences between them as well as the planning process. No oral testimony was taken at the meetings.

In the development of the Plan and DEIS, Forest personnel wanted public participation. Because the Forest had recently completed a Forest Plan (three and one-half years prior), we were very concerned that interested people might be burned out with planning and public participation. We also did not want debates between people.

Therefore, the public participation and review meetings for the Draft Forest Plan and DEIS were designed to.

- 1 Minimize confrontation between Forest Service personnel and the public, and between any participants;
2. Disseminate information about the proposed Plan, the DEIS, and the process;
- 3 Be informal, thus encouraging people to have one-on-one exchanges with Forest staff and planners, and
4. Encourage comment on the DEIS, and specifically the proposed Plan, along with an individual's supporting reasons.

The meeting schedule was.

January 5	Sisters
January 6	Redmond
January 10	LaPine
January 12	Eugene
January 13	Bend
January 18	Portland
January 24	Crescent
January 27	Madras

About 350 people attended Attendance varied considerably between communities, with Portland (Western Forestry Center) having the least, while Bend had the most (over 70) People were pleased that we made the effort to come and provide them information

The comment period closed February 15, 1983 Forest Supervisor Dave Mohla encouraged people to provide written comments along with supporting reasons. The combination of the two could help in understanding the public's point of view and concerns

Public Involvement Summary - DEIS (1982/1983)

Comment Analysis Process and Results

Once a comment was received a systematic process was used in the analysis of responses received on the various issues, alternatives, planning process, the Forest Plan, and DEIS documents The process included portions of two systems--"Content Summary Analysis" and "Code-involve." The former captures a comment and its supporting reasons and then summarizes areas of agreement or disagreement within categories by issues, alternatives, or demographic areas The Code-involve technique allows for categorization of comments or responses, especially for demographic information.

Above all, the system was designed to

- 1 Be visible and traceable,
2. Remain objective as long as possible in the analysis process;

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3. Evaluate the meaning of the comment as it relates to Forest planning and Forest management, and

4. De-emphasize numbers or vote-counting, while emphasizing areas of agreement or disagreement among issues or respondent categories.

A response from an individual or organization was first logged in, assigned a file number, and then read. Then initial analysis identified the issues or alternatives that were being commented on. This data was entered into a Data Based Management System available on the Prime 550 computer used on the Deschutes National Forest. The specialized instructions for data entry, updating, and report writing are included by reference as appendix material. A complete copy is filed at the Deschutes National Forest Supervisor's Office in Bend.

The Forest Plan public comments analysis system identifies each comment by the area it came from, who responded, response form type (letter, response form, etc.), the alternative being addressed, and the alternative(s) preferred (if any). Each set of comments on a particular issue or alternative combination can be written into a separate data record for the purpose of sorting these comments. Retrieval can be done by issues, alternatives, areas, documents, etc.

Comments were extracted from responses relatively intact and in the respondent's own words and phrases. They were then filed with similar comments. Once reports were retrieved by similar comment, the summation and eventual evaluation was done. The Forest Service response was based on similar comments.

Overall, people were generally supportive of the Preferred Alternative (Proposed Plan). Most of the comments were about wildlife, the planning process itself, timber, recreation, and adjacent landowners. Many of the comments were very specific.

A total of 351 written responses provided more than 1,400 comments. One petition with 300 signatures concerning the firewood program was received from Madras area residents. The following

tables show where the respondents lived, who they represented, and how they responded.

Origin of Responses	Number
Central Oregon	127
Rest of Oregon	195
Washington	14
California	7
Other States or Countries	8
TOTAL	351

Interest Represented	Number
Self: Black Butte Ranch Homeowners	295
Groups: Amenity (Conservation)	12
Commodity (timber industry, etc.)	21
Government: Federal	12
State	9
Local	2

Response Format	Number
Letters	264
Response Forms	66
Meetings	4
Other	7
Petition	1

During the analysis process, it became apparent that similar environmental factors or resource concerns could be grouped for summary purposes. This does not mean that an individual issue would be lost. Listed below are the summations of the comments by major resource area and in order of

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most comments received down to those receiving the fewest comments. The number in parentheses indicates total comments. Figures in the "Number" column will not always total the number in parentheses.

Flora and Fauna

This was broken down into three areas: threatened and endangered species, plant and animal diversity (old growth), and wildlife population levels. A total of 235 comments were received.

Threatened and Endangered Species

(43 Comments)

Area of Concern	Number
Bald eagle areas okay	30
Osprey areas okay	6
More owl areas	6
Too much bald eagle habitat	1

Plant and Animal Diversity

(54 Comments)

Area of Concern	Number
Increase old growth	28
Proposed plan 5 percent old growth okay	15
Need more information	11

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Wildlife Population Levels and Habitat

(138 Comments)

Area of Concern	Number
Deer or big game habitat should be maintained or increased	31
Concerned about wildlife habitat in a general sense, but especially distribution	26
Liked alternatives G and H best because they provided for more wildlife	24
Proposed plan okay	14
Wanted more wildlife information	12
Concerned about management indicator species	2
Concerned about snags	9
Concerned about hunting	8
Opposed to clearcutting	3
Wanted less deer	1

Timber Management

This section includes chemical use, firewood, mountain pine beetle, fire management, timber harvest and clearcutting.

Collectively, 516 comments (Madras petition included) were received

Timber Harvest, Levels, and Schedules

(76 Comments)

Area of Concern	Number
Concerned or opposed to the harvest levels proposed. Of that 27, 12 concerns stemmed from wildlife and old-growth issues, and 12 from visual quality and recreation issues	27
Thought Alternative F okay	21
Concerned about clearcutting	8

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Firewood

(361 Comments)

Area of Concern	Number
Concerned about future supplies (Madras Petition)	307
Program conceptually okay but we need to manage it better	24
Use more slash and waste less	19
Want lower fees	5
Save more snags	3

Mountain Pine Beetle Epidemic Management

(46 Comments)

Area of Concern	Number
Proposed Plan okay	32
Additional treatments need to be discussed	6
Conversion should occur a lot sooner than 30 years	6
Concerned about clearcutting	2
Concerned about chemical use	2
Felt it was done only to hold up the ponderosa pine harvest level	2

Clearcutting

(15 Comments)

Area of Concern	Number
Too damaging to wildlife populations and impacts recreation, wildlife, visuals, and water quality.	14
Do not restrict size of clearcuts	1

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Fire Management

(11 Comments)

Area of Concern	Number
Concerned about smoke	5
A progressive Fire Management Plan okay	3

Chemicals

(7 Comments)

Area of Concern	Number
Discuss impacts more	3
Okay to spray	2
Wrong to spray, specifically in the watershed	3

Recreation

Aspects of recreation gathered 190 responses.

Developed Recreation

(42 Comments)

Area of Concern	Number
Emphasis on intensive recreation good, and an increase okay	24
Too much emphasis on it already	14
More areas should be set aside for cross-country skiing	2
More snowmobiling	1
No more snowmobiling	1

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Dispersed Recreation

(20 Comments)

Area of Concern	Number
More dispersed recreation	15
Less motorized dispersed recreation	4
More cross-country skiing	3
Close Swampy Lakes to snowmobiling	1

Snowmobiling

(52 Comments)

Area of Concern	Number
No more snowmobiling, with 21 of the 31 wanting Swampy Lakes only for cross-country skiing	31
More consideration of snowmobiles with 12 of those saying keep Tam McArthur Rim open	19

Cross-Country Skiing

(30 Comments)

Area of Concern	Number
More skiing	27
Close Swampy Lakes to ORVs	25

Scenic Views

(22 Comments)

Area of Concern	Number
Protection is important	20
Too much emphasis on scenics	2

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Road Management

(21 Comments)

Area of Concern	Number
Proposed Alternative F okay	7
Concerned about the specific management actions proposed in the Plan	9
Concerned about roads and trails	3
Close 1534 to protect wilderness	2
Put roads closer to lakes so they can be seen better	2

Planning Process

One hundred sixty-nine comments were received on the Forest Planning process and documentation of the decision in the Draft Environmental Impact Statement

Monitoring

(36 Comments)

Area of Concern	Number
Concerned about monitoring of the economic effects	13
Concerned about wildlife population monitoring	15
Concerned about harvest schedules monitoring	5
Concerned about water quality monitoring	3

Other Concerns

(44 Comments)

Area of Concern	Number
Recreation okay or should be increased	14
Beef up the economic analysis	9
Alternative range was poor and not broad enough	9
Increase coordination in public participation	6
More soil information	4
Increase research natural areas over the proposal	3
Concern about cultural resources	3
Inadequate coordination with adjacent landowners	3
Inadequate coordination with State Department of Forestry	1

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Adjacent Landowners

(158 Comments)

Area of Concern	Number
No exchanges around Black Butte Ranch, principally because it has traditionally been public land and it is best to stay in public land. An exchange would change the character of the development	149

Recreation Residences

(72 Comments)

Area of Concern	Number
Leave the summer homes program as is, with no terminations	32
Phase them out now or in the future for higher and better public use (if needed)	24
Analysis inconsistent and decision process was weak	15

Soil and Water

(61 Comments)

Area of Concern	Number
Concerned about the Bend Watershed. Twenty-seven of those said the Proposed Plan was okay with limitations on such things as logging and road access	38
Miscellaneous comments concerning river protection and hydroelectric development	11
Concerned about water quality and its importance	19
Wanted additional information on soils	4

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Newberry Crater Known Geothermal Resource Area

(60 Comments)

Area of Concern	Number
Concerned about the protection of the area for recreation and visuals	18
Alternative F (the Proposed Plan) okay	16
New leasing should be confined to Zone 3	9
Zone 1 should be eliminated	5
More information needed about the resource before decisions can be made	4

Nonwilderness, Roadless Areas

(58 Comments)

Area of Concern	Number
Ought to protect and increase roadless and wilderness, with 6 concerned about wildlife and general protection	30
Too much wilderness	13
It is unavailable to the majority	5
Only cross-country skiers could go into these area	5

Rafting on the Metollus River

(54 Comments)

Area of Concern	Number
Rafting okay, and 9 of the 26 felt that it should be limited or restricted	26
No; 9 of those were concerned with the commercial aspect	15
Concerned about coordination with Warm Springs	3

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Local and Regional Economies and Lifestyles

(35 Comments)

Area of Concern	Number
Proposed Plan okay	7
Recreation and tourism important	8
Jobs and employment are the general concerns that ought to be considered	4
Minorities would not be impacted	3
Alternatives G and H are better	2

Wild and Scenic Rivers Study Recommendations

(82 Comments)

Area of Concern	Number
Metolius ought to be designated; 3 said no	25
Said yes to the Little Deschutes, and 4 no	11
Said yes on the Deschutes, while 4 said no	25
Said yes for Big Marsh and Crescent Creek, and 3 said no	7
Said yes to hydroelectric and water development projects on these streams, while 5 said no	2

Resource Planning Act Targets

(23 Comments)

Area of Concern	Number
Too much timber emphasis	5
Need more explanation of the targets and rationale	4
More wildlife habitat	3
Too much recreation	2
Too much wildlife	1

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Roadless Area Public Comment (1983)

Activities

During 1983 the Forest was directed by the Chief (along with other Forests) to further analyze public opinion regarding roadless areas. The Forest developed a packet which was sent to all people on the Forest Plan mailing list. Of the respondents 36 were individuals, 8 were from special interest groups, and 3 were sent anonymously. Special interest groups included: Western Speleological Society, Waldo Country Study Area, Washington Native Plant Society, Obsidians, Occidental Geothermal, Inc., Mazamas, Oregon Hunters' Association, and Lane County Audubon Society.

Summary

Of the respondents, 3 were from Portland, 22 from the Willamette Valley, 11 from Central Oregon, 5 from Washington, 4 from other States and 2 were of unknown origin.

The following summary will discuss, by roadless area, the category of comments, a brief summary of those reasons, and our recommendation to the line members

Oregon Wilderness Act

After the roadless area involvement effort in 1983, the United States Congress enacted the Oregon Wilderness Act of 1984. This added 59,265 acres to wildernesses on the Forest. Additionally, the Congress created the Oregon Cascade Recreation Area from 37,891 acres of roadless land and 4,765 additional acres. The remaining 145,142 acres of roadless area land were allocated to various multiple use activities in the Forest Plan.

Metolius Breaks Roadless Area

Comments	Number
No comments	17
Protect	8
Part Wilderness	0
Wilderness	11
Nonwilderness	4

Special Concerns

Wildlife habitat, botanical species, recreation, geology.

Recommendation

Retain in Undeveloped Recreation.

Mt. Jefferson Roadless Area

Comments	Number
No comments	13
Protect	4
Part wilderness	1
Wilderness	16
Nonwilderness	7

Special Concerns

Most requests for wilderness had more to do with Mt. Hood/Willamette NF parts of the existing wilderness

Recommendation

No special classification; the small, isolated fingers would complicate the boundary

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Mt. Washington Roadless Area

Comments	Number
No comments	11
Protect	3
Wilderness	18
Nonwilderness	8

Special Concerns

Concerned about protecting existing wilderness.
Has high scenic value.

Recommendation

Wilderness.

Three Sisters Roadless Area

Comments	Number
No comments	18
Protect	3
Part wilderness	1
Wilderness	17
Nonwilderness	6

Special Concerns

Boundary locations.

Recommendation

Wilderness, use logical boundaries.

West/South Bachelor Roadless Area

Comments	Number
No comments	15
Protect	4
Part wilderness	0
Wilderness	9
Nonwilderness	12

Special Concerns

Intensive Recreation; Mt. Bachelor, Inc. would be best use. Improve cross country ski trails.

Recommendation

Continue to emphasize Intensive Recreation and Scenic Values No wilderness classification

Bearwallows Roadless Area

Comments	Number
No comments	21
Protect	5
Part wilderness	0
Wilderness	5
Nonwilderness	7

Special Concerns

Mostly indifference.

Recommendation

No wilderness

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Bend Watershed Roadless Area

Comments	Number
No comments	17
Protect	9
Part wilderness	0
Wilderness	9
Nonwilderness	9

Special Concerns

Water quality and wildlife.

Recommendation

No wilderness.

Charlton Roadless Area

Comments	Number
No comments	19
Protect	4
Part wilderness	0
Wilderness	7
Nonwilderness	9

Special Concerns

No strong statement about wilderness More roads
Manage dispersed recreation

Recommendations

Put most in General Forest, consider West 1/3 for
Undeveloped Recreation.

Waldo Roadless Area

Comments	Number
No comments	13
Protect	4
Part Wilderness	0
Wilderness	17
Nonwilderness	7

Special Concerns

Nonwilderness proponents want it left as it is
Significant number for wilderness mentioned
protecting the Many Lakes area.

Recommendation

Consider for wilderness, as we have it now (West
Many Lakes area).

Maiden Peak Roadless Area

Comments	Number
No comments	15
Protect	4
Part wilderness	2
Wilderness	10
Nonwilderness	8

Special Concerns

Manage for recreation values (PC Trail, Gold Lake,
Rosary Lakes) and cross country skiing People
felt strongly about portions and want dispersed
recreation

Recommendation

Undeveloped Recreation from Twins north along
township line along Waldo Road -- Maiden Peak
south will be Undeveloped Recreation -- rest to
the south should be General Forest

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Odell Roadless Area

Comments	Number
No comments	14
Protect	4
Part wilderness	0
Wilderness	16
Nonwilderness	5

Special Concerns

Fawn Lake, wildlife habitat for spotted owls, low value timber, fragile soils. Most interest in all (or portion) going into wilderness.

Recommendation

Use a manageable boundary and include Fawn Lake (Hatfield boundary). For remainder think about staying with Visuals or switch to Winter Recreation allocation.

Cowhorn Roadless Area

Comments	Number
No comments	12
Protect	4
Part wilderness	1
Wilderness	14
Nonwilderness	8

Special Concerns

Trails, high lakes, wildlife, exclude Summit Lake Road from wilderness.

Recommendation

Wilderness or Undeveloped Recreation allocations. Need to discuss

Windigo/Thielsen Roadless Area

Comments	Number
No comments	11
Protect	4
Part wilderness	0
Wilderness	18
Nonwilderness	6

Special Concerns

Diverse ecosystem.

Recommendation

Wilderness

South Paulina Roadless Area

Comments	Number
No comments	16
Protect	5
Part wilderness	1
Wilderness	8
Nonwilderness	8

Special Concerns

Unique biologically and geologically Mountain pine beetle epidemic

Recommendation

Stay with present recommendation (Preferred Alternative)

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North Paulina Roadless Area

Comments	Number
No comments	14
Protect	4
Part wilderness	1
Wilderness	9
Nonwilderness	9

Recommendation

Leave as it is.

Comments Applicable to All Roadless Areas

Comments	Number
No comments	6
Protect	0
Part wilderness	3
Wilderness	4
Nonwilderness	11

Special Concerns

Dispersed recreation

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Public Comments on 1986 DEIS and Proposed Forest Plan

Activities

The majority of the public had about 120 days to review documents and provide comments. When the DEIS was released we received considerable media attention and began an intensive two month period of meetings. We attended over 75 meetings, coming into contact with approximately 1500 people as a result. Although we held meetings in Sisters, Crescent, Eugene, Bend, LaPine, and Redmond, the majority were at the request of the public. The Sierra Club sponsored a series of meetings on our Plan which attracted fairly large numbers of people with widely different interests. Overall, the interest level in the Plan was much higher and more broadly based than we had anticipated or experienced in the past.

A chronology of public involvement activities follows this section. (Immediately after the lists of names and organizations that responded.)

Analysis Process and Demographic Summary

We received 1623 written responses which contained over 8,000 comments. The majority of them came from Oregon but responses were received from such places as Dayton, Ohio and Waco, Texas. Following is a breakdown of who and where the responses came from:

Origin of Responses

Origin of Responses	Number
Outside of Oregon	127
Western Oregon	412
Eastern Oregon	1084
Total	1623

Nature of Respondents

Nature of Respondents	
Federal and State Agencies	14
Timber Industry	49
Associations	15
Motorized Recreation Interests	4
Riding and Hiking Interests	7
Individuals	1353
Academia	3
Professional Societies	4
Conservation Groups	42
Civic Groups	6
Business Groups	101
Other	37
Total	1623

Elected officials who provided written comment included State Representatives Tom Throop and Peg Jolin. Throop basically supported the Preferred Alternative with some exceptions. He requested the Wild and Scenic River recommendations be expanded to include the upper Deschutes and lower Metolius. He also requested that the denial area for geothermal leasing in the Newberry Crater more closely correspond with State and County recommendations. He also requested more attention be given to fisheries on the Deschutes River. Peg Jolin requested that the Waldo Lake road be paved.

Other elected officials included the Deschutes and Klamath County Commissioners. The thrust of their comments were to maintain or increase revenues to the Counties.

Following is a relative comparison on the number of comments received regarding various issues and subjects. This can be used as a barometer for the intensity surrounding various issues.

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Area of Concern	Number
Roadless areas	510
Firewood	190
Geothermal	370
Roads	70
Recreation	650
ORV Use	100
Wild and Scenic Rivers	350
Cross Country Skiing	270
Trails	160
Sustained Yield	170
Old Growth	170
Visual Resources	190
Water	90
Wildlife	430
Fish	60
TE Species	50
Jobs/Income/Economics	250
Employment	350
Departure	80
Below Cost Sales	100
Timber Harvest Levels	580
Lodgepole Pine/Epidemic	130
Clearcutting	210

Comments on many other subjects such as RPA, range, soils, Wilderness use, fire, etc , were usually less than fifty. All comments were used in the analysis regardless of numbers.

Summary of Comments by Resource/ Issue Area

Timber

Lodgepole Pine Salvage

Very little support for accelerating on a 15-year basis for the following reasons:

Established industries do not need or particularly want a lot of lodgepole

There is no certainty that new industries will emerge to utilize the material, and if they did, what would be the long-term implications

Do not like the large clearcuts associated with the lodgepole pine harvesting

Do not like the effects on mule deer habitat since cover is reduced, more roads are constructed, and the forage gains are only short term. A more desirable condition would be small areas treated through time to create a mosaic.

Not economically sound because the material is going for minimum bid, the Forest Service and counties are not gaining any revenues, and it suppresses the amount of ponderosa pine that could be harvested, which is the more valuable species

People do not like the departure timber schedule associated with accelerated lodgepole program

People would like to see the wood used for firewood rather than commercial products.

Seem to think it is okay to treat stands not already infested through forms of thinning.

Alternative	Number
Alternative A	200
Alternative B	80
Alternative C	180
Alternative D	100
Alternative E (Preferred Alternative)	590
Alternative F	110
Alternative G	170
Alternative H	100
Central Oregon Alternative	960

The Central Oregon Alternative was one developed by timber industry during the public comment period. Its basic thrust was to increase the amount of ponderosa pine offered each year. Many of the people who commented were concerned about jobs and employment and were basically opposed to locking up land at the expense of timber harvesting

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Ponderosa Pine Harvest Levels

Many people asked for a constant, dependable flow of ponderosa pine sales at or above historic levels. Some people recommended a harvest level of 140 MM board feet, which was proposed by the timber industry. Some of these same people said, "sell what grows" and do not impact other resources such as wildlife and recreation. Two significant misconceptions exist in the minds of many respondents:

That the Forest is proposing to sell significantly less ponderosa pine volume than in the past.

That the Forest can produce 140 MM board feet of ponderosa pine with little or no impact on other resources.

The impact on jobs and the local economy were the key reasons behind support for this issue.

Clearcutting

There is strong objection to clearcutting, even from industry. Few, if any, comments were received in support of clearcutting. Many people recommend selective harvest as an alternative. Maintaining biological diversity was the most common justification. Some people claim our clearcutting policies violate NFMA.

Sustained Yield/Even Flow Versus Departures

There is strong support for sustained yield/even flow. There is almost no support for departures, even in lodgepole.

Firewood

There is strong support for the firewood program from nearly everyone, including the timber industry. Many people want firewood separated from ASQ calculations, and some industry representatives claim this violates NFMA regulations (preliminary research indicates they may be correct).

Below Cost Sales

Strong objections to below cost sales from environmental community. Most of these people requested that a map of these sales as well as unsuitable lands be included in the Final Plan. Many people relate below cost sales to unsuitable lands. Also, although not always stated, many of these comments are aimed at not entering Roadless Areas.

Wildlife

A great deal of concern was expressed that the great grey owl was not considered in the plan and that the Standards and Guidelines for goshawks were inadequate.

Some concern that no provisions were made for osprey outside of the Crane Prairie area.

Much concern expressed about snags in ponderosa and request that all snags be left in ponderosa pine. Some expressions that the 60% level was too low and we should go to 80-100%.

There was concern about the impact of roads and ORVs on wildlife. There was concern that no specific road management direction was included in the Plan.

It was pointed out that the Townsend's big-eared bat was not included in our Management Indicator Species list. It is now classified as a Sensitive Species and should be included, and direction developed and incorporated in the Plan.

There was a high level of concern about the accelerated harvest of lodgepole pine and the impacts that would have on hiding cover for mule deer. A slower conversion rate was recommended, with small cutting units to develop a more diversified Forest condition.

Considerable comment about old-growth and its value. Topics included wildlife, riparian areas and visual management as

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well as real estate and a supply of material for the large ponderosa pine mills.

Fish

Though not large in numbers, there was intense criticism that the Plan was grossly inadequate in addressing fish and fish habitat. Most of this centered on the Deschutes River and the larger lakes and reservoirs.

Recreation

Roadless Areas

Of the recreation related topics, the greatest number of comments received advocated maintenance of existing Roadless Areas in their current condition with no motorized use, geothermal development or logging. Maintenance of the roadless condition was strongly supported for several individual areas: Maiden Peak, the Bend Watershed, the Metolius Breaks, South and West Bachelor, and North and South Paulina. Many comments focused on developing these areas for hiking and Nordic skiing away from motorized vehicles. Support was expressed for additional snowmobile trails in the Paulina area.

A large number of people were concerned about further wilderness allocations and their fear about locking land up. There obviously is a perception that what is going on in land management planning involves such activities.

Wild and Scenic Rivers

Strong interest has been expressed in adding both the entire upper Deschutes River and the entire Metolius River in the Wild and Scenic River System. A number of individuals and groups also expressed interest in Fall, Spring, and Little Deschutes Rivers, as well as Crescent, Squaw and Big Marsh Creeks. Although protection from hydroelectric and commercial development were major concerns, protection and enhancement of fish and wildlife habitat, scenic values, and compatible recreation were advocated

Trails

Viewed collectively, trails (hiker, horse, mountain bike, Nordic, motorized, and canoe) received just slightly fewer but more varied and individualistic comments than roadless areas or Wild and Scenic Rivers. Many letters stated interest in loop trails at all campgrounds, development of trails to scenic locations, and separation of motorized use from trails used by hikers. Close in trails also received favorable attention.

Most commentators remarked on the need to separate types of users to optimize the quality of the recreation experience. Separation of Nordic ski and snowmobile trails, hiking and ORV trails, and mountain bikes from heavily used hiking trails was advocated.

Protection of the scenic values of trail corridors from timber harvest (clearcutting) especially for the horse users of the Windigo-Metolius trail and the Newberry Crater area was very important.

Mountain bikes received mixed reviews. Most commentators simply said "avoid conflicts with hikers," but a few requested bikes be prohibited.

Nordic Skiing and Snowmobile Use

A great deal of interest was shown for increasing Nordic skiing opportunities, particularly in areas readily accessible to population centers. Many comments favored separating Nordic skiing and motorized use. Areas most often suggested for expansion of Nordic ski trails were the Bend Watershed, south and west of Mt. Bachelor, Swampy Lakes/Todd Lakes, and Maiden Peak-Willamette Pass area.

Some interest was also expressed in expanding opportunities for snowmobiling in the Newberry Crater and into remote areas generally inaccessible to skiers.

Comments were also received expressing a need to extend snowplowing so wilderness would be more accessible for day use skiing.

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Off-Road Vehicles

Comments on ORVs showed up in many areas. Suggestions were to keep them out of sight and sound from Roadless Areas, wilderness, scenic areas, sensitive habitat areas, Research Natural Areas, and summer and winter trails, campgrounds, Nordic ski areas, etc.

A few comments recognized that ORVs should be given some opportunities.

Snowmobiles received the greatest support.

Metolius River Corridor

Comments were sprinkled throughout the recreation related input that specifically focused on the *Metolius*. Strong support was stated for Wild and Scenic River classification for the Metolius from its source to Bridge 99 (scenic) and from Bridge 99 to Lake Billy Chinook (wild). The Warm Springs Tribes are adamantly opposed to classification of the latter segment.

There was strong support expressed for maintaining the roadless character for the Metolius Breaks.

Interest was also strong for maintaining or enhancing the existing visual character of the corridor and restricting or limiting timber harvest and any additional commercial or recreation development.

Visuals

Primary interest came in comments expressing the need to protect scenic values along rivers and highways. It was suggested that ORVs and geothermal not be permitted in visually sensitive areas. Also, many comments favored utilizing landscape management techniques more widely, especially for timber harvest and in rehabilitating older cutting units.

A number of comments focused on the Sisters area in addition to the Metolius corridor. Several comments suggested more sensitive treatment (less cutting) around Black Butte. These were countered by comments advocating no special treatment be given to lands adjacent to exclusive homesites.

Several letters expressed a preference for maintaining a scenic corridor along Squaw Creek, Pole Creek, and the Three Creek Lakes road.

Overall tone was that visual resources were important to the lifestyles and recreation experience on the Forest as well as affecting the monetary value of real estate.

Energy and Minerals

Geothermal

There is considerable and varied input to the geothermal resource. The key points are:

A concern that geothermal leasing should not occur in Roadless Areas.

Request a map showing the current leasing

A concern that leasing and development should not be allowed to conflict with any other resources.

A concern that there be no leasing in visual, critical wildlife habitat, and other ecologically sensitive areas.

That the winter recreation/geothermal management area be treated as separate designations since winter recreation is not compatible with geothermal.

That the Bend Watershed, Research Natural Areas, and Experimental Forest be leased with no surface occupancy restrictions as opposed to being denied.

That there be a better analysis of the resource and economic outputs in an area before leasing is denied out of hand.

Hydropower

Hydropower development has been of considerable interest in the Central Oregon area for the last three years as a result of numerous applications to establish low-head hydropower facilities.

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Numerous respondents were concerned about hydropower developments along portions of the Deschutes and to a lesser degree the Metolius River. The vast majority were opposed to such developments.

Special Uses

Most of the comments were about the standards/guidelines for Special Use Permits. Comments focused on Recreation type permits and particularly outfitter and guide permits since the Plan proposed rather restrictive policies with the greatest limitation in wilderness

Key concerns:

Equitable treatment of all publics in applying wilderness capacities.

Limits on party size should include only people and not livestock.

Limitations should recognize business need to grow to an economical size

There were some comments that requested the continuation of the recreation residence program and one which suggested it be terminated; also that the Plan relate to any future use determination.

Land Adjustments

There were relatively few comments which tended to be concerned about land adjustments adjacent to subdivisions or destination resorts.

Common Mineral Materials

Not all material sources on the Ft. Rock District are shown that will be needed in the next 10 years.

Deschutes County comprehensive plan is being revised to deal with common material needs and their potential conflict with other uses. Their present plan recognizes a shortage of gravel and stone of building

quality. They would like the National Forest to make sources of this material available to the public.

Areas of Agreement

The public as a whole agrees that the Deschutes National Forest should be managed so that large ponderosa pine trees are always here and not just in special areas such as roadside zones or scattered old growth stands. Reasons are they like the looks of large yellow bellied trees in the Forest environment and from a timber standpoint, they are the most valuable tree.

There is a general consensus that clearcutting in ponderosa pine is inappropriate. For the most part they do not like the looks of clearcuts, timber industry does not like to have to cut and haul small trees, and people perceive it to be bad for wildlife.

There is general consensus that accelerating the harvest of lodgepole pine on a 15 year basis is inappropriate.

There is agreement that we should not be entering the Roadless Areas in the first decade for purposes of harvesting timber or salvaging dying or dead lodgepole pine.

There is sweeping support for including the Deschutes and Metolius Rivers in the Wild and Scenic River System. (One noticeable exception is the Confederated Tribes of the Warm Springs Reservation on the Metolius.)

There appears to be agreement that the amount of personal use firewood which we proposed to make available on an annual basis is acceptable.

There is agreement that the Forest plays a vital role in the economic health of Central Oregon.

There was strong support not to allow geothermal leasing in the interior of the Newberry Crater. There is some discussion on just where the line between leasing and denial should be placed.

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Areas of Disagreement

There is no agreement on how much ponderosa pine should be harvested.

Even though there is agreement about timber harvesting in the Roadless Areas in the first decade, there is not agreement as to whether those areas should be removed from the base when calculating the ASQ

There is no agreement on what the long term direction for Roadless Areas should be.

There is no agreement on what the role of the Forest should be in providing for economic stabilization or growth in our local economy. Many feel we should focus on timber and commodity resources while others feel strongly we should focus on our recreation resources.

There is sharp disagreement on whether additional cross country ski areas should be established where snowmobiles are excluded.

There is no agreement that cross country skiing and geothermal leasing are compatible or that leasing should occur at all.

Courses of Action to Consider

The first five subjects listed below were the focus of planning revisions between DEIS and Final EIS. The remainder of the subjects were dealt with by the Forest.

Lodgepole Pine

Extend the conversion period from 15 years to 30-40 years

Take the dead lodgepole out of the calculation of the ASQ and work with it strictly as a salvage program with no specific conversion period.

Continue on as presented in the DEIS

Ponderosa Pine Harvest Levels

Increase the flow of ponderosa pine harvest by ignoring the impact of lodgepole pine salvage program.

Since the flow of large ponderosa is lumpy in the first three decades due to the accelerated harvesting of lodgepole, use a schedule that smooths off the first three decades of ponderosa harvest levels

Use a departure timber schedule to achieve higher first decade timber harvest levels of ponderosa pine.

Continue on as presented in the DEIS

Clearcutting

Evaluate multigaged management techniques through the "Prognosis Model." Determine where these techniques are appropriate. Include appropriate direction in standards/guidelines. Change yield tables

Continue on as presented in the DEIS

Wild and Scenic Rivers

Stay with our proposed classification is one choice

Another is to recommend the entire Deschutes, and the Metolius only down to Jefferson Creek.

A third choice is to recommend certain segments of the Deschutes above Spring River, primarily excluding the private lands, in addition to what we have already recommended

A fourth choice is to work with the state and include the Deschutes in the Scenic Waterway program and include the Metolius down to Jefferson Creek in the federal program

For the lower Metolius it appears we need to work out a cooperative approach with the Confederated Tribes but not recommend it for classification.

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Some combination of the above alternatives is also feasible.

Roadless Areas

For the most part the areas that people expressed the most concern about are not proposed for a lot of development. The exception, in the long term, would be Charlton and Maiden Peak Roadless Areas. Re-evaluate whether to retain these two in an undeveloped condition.

Sustained Yield/Even Flow Versus Departure

Eliminate the departure in lodgepole.

Do not propose departure in ponderosa pine

Treat dead lodgepole as a salvage operation

Firewood

Maintain the provision for 60,000 cords of firewood.

Develop standards/guidelines that will tell where and how the firewood program will be managed

Keep firewood out of ASQ calculations (do not really know how to reserve it and keep it out of the ASQ, however).

Get Regional Office opinion of legality of having firewood part of ASQ (possible NFMA violation).

Below Cost Sales

Include explanation of the below cost/deficit sales issue in our response to the public comments.

Include direction in standard/guidelines on how the Forest should manage low value or below cost sales. Congress is going to force us to do this anyway.

Include a map of unsuited lands in the final plan.

Do not attempt to make a map of below cost sales, but we need a good justification on why we did not.

Wildlife

Develop some additional Standards and Guidelines that address great grey owls, osprey outside of the Crane Prairie area, and re-do the standards/guidelines for goshawk if necessary

Stay with 60% population level in snags, and better explain what is going on with snags in ponderosa pine stands.

Review the ORV Plan to assure it provides for wildlife needs and incorporate more specific road management objectives developed as a result of coordination with the Winema and Fremont

Develop direction to address the Townsend's big-eared bat.

Explore different conversion periods for lodgepole pine.

Fish

Develop and include more specific information on fish habitat, with a focus on the Deschutes River

Trails

Establish direction in the Plan that sets the frameworks for developing a more site specific trail plan as a part of implementing the Plan

Nordic Skiing and Snowmobile Use

Incorporate an expansion of trails for winter use in with an overall trail plan

Set aside new areas for cross country skiing and exclude snowmobiles

Maintain status quo with regards to cross country skiing and snowmobiles.

Off Road Vehicles

Review the ORV plan to determine if sensitive areas have been covered and where appropriate, conflicts minimized.

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Visual

Re-evaluate scenic views emphasis on the Sisters District, the higher flanks of the Cascades, and the slopes of the Newberry Crater.

Geothermal

Will need to discuss the effect of existing leasing on Roadless Areas. Show the amount of Roadless Area within the management areas with high geothermal potential and explain whether geothermal leasing is compatible with the objectives of the management area. Explain that the Plan is not making a decision to lease nor to determine the conditions of leasing.

We can include a map showing the status of current leasing

Point out that one of the goals of the Plan is to provide for geothermal resource development which is compatible with other resources. The Plan is making some decisions about leasing in the form of denial of leasing for some management areas. *The Plan also indicates the general level of compatibility and amount of restrictiveness which might be applied to other management areas subject to a post Plan analysis which will make the decision about leasing and the conditions under which leasing will be permitted.*

We should give further consideration to the relationship of the winter recreation/geothermal management area. There are several alternatives including renaming the area, strengthening the standards/guidelines to explain the relationship, or creating separate management areas which separate the perception of conflict.

We could consider removing from denial the Research Natural Areas and the Experimental Forest. These areas could be adequately protected by a no surface occupancy type of stipulation which could be determined in the post Plan assessment. The procedure would in effect defer the decision on how to handle these two areas to the post Plan assessment. We suggest not doing the same thing with the Bend Watershed because there is a stronger public perception of protection

with denial than with a no surface occupancy stipulation

We need to strengthen the display of outputs and economics for the geothermal resource. This can be done by creating an assumption that there will be a modest size pilot plant developed during the Plan period (which is feasible if a resource is found). It is much more difficult to compare potential outputs of the geothermal resource on a broad area basis with other resources (although this is probably what we have been doing on a subjective basis in making decisions up to this point).

Special Uses

Better explanation of the objectives of wilderness management and reasons for favoring individual use over commercial use.

Some possible easing of the restriction on growth of existing permit capacities including allowing more growth outside wilderness areas

Identify the future use determination study as a post LMP activity and indicate when it will be scheduled.

Land Adjustment

Review the plan for logic and consistent treatment in these areas. Explain that the land adjustment plan does not make the ultimate decision about an exchange proposal and that the environmental process provides for public input and a decision on a specific exchange proposal

Common Mineral Materials

The intent of the Plan was to designate the sources to be used during the Plan period, however, there was an attempt to eliminate and consolidate sites to lessen the impact on the Forest recognizing that the economics of haul might necessitate some changes with time

Sources not designated in the Plan would have to be allocated through a NEPA process. We should review this map to make sure all the sites are located to the best of our ability

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We should coordinate with Deschutes County to see if the data they are now collecting still indicates a shortage of aggregate. If the shortage has reached the stage where we can dispose of this

type of material without competing with the private sector, then we could amend the Plan to do some of this.

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Summary of Responses to Supplement, Draft Forest Plan and DEIS

Industry

There were three industry responses. The most extensive was from the Northwest Forest Resource Council. It was apparently sent, in virtually identical form, to all Supplement Forests. The RO planning shop, in the person of Tim Tolle, has prepared a response, which is included in the comment/response section of this Appendix. It can be adopted to the Deschutes NF situation.

A description of the remainder of the response follows.

Northwest Forestry Association

--The "No Change" Alternative's timber output level should have been described in terms of its programmed harvest level, not potential yield.

--The range of scientific opinion wasn't acknowledged.

--Other ways of meeting the MRs weren't analyzed.

--The final Forest Plan must provide for the area's existing resource-based industries.

Douglas Timber Operators, Inc.

They agreed with NFRF.

Agencies

The Department of Interior wrote to say it had nothing to say, as did the Department of Health & Human Services. The Environmental Protection Agency said implementation of the "No Change" Alternative would be a bad idea. It took the opportunity to remind us of its lack of enthusiasm for the DEIS ("environmental concerns - insufficient information"). The Boneville Power Administration wanted to talk about utility corridors, which has nothing to do with the Supplement.

Environmental Groups

Virtually no response. The Washington Native Plant Society asked us to weed out the "No Change" Alternative but MRs are to its liking. It said SOHAs have to be dedicated (not managed) because we can't create old growth. "Some of the finest examples of old growth Ponderosa Pine in the world exist on the DNF, and we believe that the DNF must demonstrate that an adequate and well-distributed representation of such habitats are preserved across the Forest.... "

Mazamas

"First, we consider the "No Change" Alternative an exercise in futility."

The remainder of the response was an amendment to comment the Mazamas submitted to the DEIS (kosher?). The letter goes on at length about old growth and roadless areas and endorses Alternative G.

Individuals

As expected, a number of people seized the opportunity to hold forth on a variety of matters. There were six in all.

One respondent wants the MRs to address bugs. ("Insects provide the bulk of the diet for many game birds and song birds. ") He thinks we need to count our bugs.

Several people opposed cutting on Black Butte. Four voiced concerns about old growth. A person from Minneapolis proposed no action in spades, a dedicated National Natural Preserve. One declared, "I don't give a hoot about the Spotted Owl" but also said "scenery is the foundation of a tourism economy."

Responses to these submissions will be published in a separate portion of Appendix J, Response to Public Comment.

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List of Respondents

Elected Officials, Federal and State Agencies, and Tribal Government Responses

FEDERAL AGENCIES

DEPT OF ENERGY
FED AVIATION ADMINISTRATION
TENNESSEE VALLEY AUTHORITY
HOUSING URBAN DEVELOPMENT

DEPT OF TRANSPORTATION
FED HIGHWAY ADMINISTRATION
US DEPT OF INTERIOR
US DEPT OF AGRICULTURE

DOT USCG (2)
FED ENERGY REGULATORY COMM
US DEPT OF LABOR
USDC, NTL OCEANIC & ATM ADM

ENVIRONMENTAL PROTECTION AGENCY
GENERAL SERVICES ADMINISTRATION
US DEPT OF DEFENSE
USDI ENVIRONMENTAL PROJECT REVIEW

STATE AGENCIES AND ELECTED OFFICIALS

STATE REPRESENTATIVE JOLIN
OREGON DEPT OF ENERGY
OREGON DEPT OF AGRICULTURE
STATE OF OREGON INTERGOVT
RELATIONS

HONORABLE ROBERT PICKARD
OREGON DEPT OF FISH AND WILDLIFE
OREGON DEPT OF LAND
DEPT OF TRANSPORTATION

HONORABLE ROBERT SMITH
OREGON DEPT OF FORESTRY
OREGON STATE LANDS
DEPT ENVIRONMENTAL QUALITY

HONORABLE RON WYDEN
OREGON DEPT OF ECONOMIC DEV
STATE OF OREGON DEPT GEO & MIN
INTERSTATE COMMERCE COMMISSION

COUNTY AGENCIES

DESCHUTES COUNTY PLANNING

DESCHUTES COUNTY COMMISSIONERS

KLAMATH COUNTY PUBLIC WORKS

CITY/MUNICIPAL GOVERNMENTS

CITY OF SISTERS

PUBLIC EDUCATIONAL INSTITUTIONS

BEND-LAPINE SCHOOLS

JOHNSON STATE COLLEGE

KLAMATH COUNTY SCHOOL DIST

OREGON STATE UNIVERSITY

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BUSINESS AND INDUSTRY REPRESENTATIVES

ARGAY CARD LAB
BEND RESEARCH, INC
BRIGHT WOOD CORP
CHAMPION METAL CO
COLUMBIA HELICOPTER
C O WELDING SUPPLY
DAW FOREST PRODUCTS
ENDURO-ARABIAN
FOREST PROD SALES CO
FULLMER LUMBER COMPANY
GILCHRIST TIMBER CO
HARWATER LOGGING
INDIANA FOREST PROD
JIM SMOLICH MOTORS, INC
LAKEVIEW LUMBER PRODUCTS
McPHILLIPS MGF CO
MILL SUPPLY CORP
MYRMO & SONS
NORDIC WEST
OREGON INDUSTRIAL SUPPLY
PACIFIC GAS TRANS CO
R & S LEASING CO
ROBERSON FORD
SNOW MOUNTAIN PINE CO
TIMBER & WOOD PRODUCTS
VALE LANCE RADIO SERVICE
WILDERNESS VENTURES

BACHELOR REALTY
BLACK & COMPANY
BROADVIEW LUMBER
CHASE FITZPATRICK
COLUMBIA PLYWOOD
D STAKE MILL
DINE-CORBETT FAMILY
ENTRADA LODGE
FORTIFIBER CORP
GEO OPERATOR CORP
GOODWIN BROTHERS, INC
HELENA LUMBER
INLAND AQUA-TECH
JOE WAIBEL LOGGING
LUMBERMEN'S INSURANCE
MEDFORD CORPORATION
MR KRUSHARA
N W ALPINE ADV
NORTH IDAHO WOOD
OUTDOOR ADV PLUS
PAPE' BROTHERS, INC
R A. HOWELLS CO
RUSSELL INDUST , INC
SUN-DOR CO
TIRE MANAGEMENT
VANDERHOFF LUMBER
WING INDUSTRIES

BATES-AYRES, INC
BOB THOMAS CHEVEROLET
BUD FRANK LUMBER
CJ HODDER LUMBER CO
CONTACT LUMBER CO
D WEINTRAUB PHOTO
DODSON LUMBER
FAIRFIELD MED CLINIC
FRAND RUEGG COMPANY
GEORGIA-PACIFIC CORP
HAPPY JACK SKIADV
HIGH CASCADE PACK
INN OF THE 7th MTN
KRUEGER-BROUGHTON LUMBER CO
MAYWOOD-ANDERSON FOREST PROD
METOLUS ROVER LODGES
MT BACHELOR PINE SALES, INC
NATURE EXPED INTL
NORTHWEST, INC
OXBOW GEOTHERMAL
PINE PRODUCTS CORP
REED BROTHERS REALTY
SANCTIONED OUTERS
SYLVAN SERVICES
TREE PRODUCTS COMPANY
WESTERN FOREST INDUST
WOOD PRODUCTS CREDIT UNION

BEND AGGREGATE
BOISE CASCADE
CASCADE TRAVEL
CLEAR PINE MOULDING
CONTINENTAL WOOD
DAHLGREN, INC
ELLISON COMPANY
FARWEST CHEMICAL
FREMONT SAWMILL
GILCHRIST LUMBER CO
HARDMAN LUMBER COMPANY
IDEAL COMPANY, INC
INTERSTATE LUMBER COMPANY
KWSI FM RADIO
McGINNIS LUMBER
METROPOLITAN LUMBER
MT BACHELOR, INC
NEELY SCHAUBLIN & CO
NUGGET NEWSPAPER
PAC S E FOREST PRODUCTS
PITTS LOGGING, INC
RICE & FONGERS
SISTERS VETERINARY CLINIC
THUNDER BIRD MOULDING
UNIVERSAL LUMBER COMPANY
WEYERHAEUSER COMPANY

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LIST OF RESPONDENTS

ORGANIZATIONS

ACHP	ALL OUTDOORS, INC	AMERICAN RIVERS, INC
ASSOC OF OREGON LOGGERS	BEND BADMINTON CLUB	BEND CHAMBER CRIBBAGE CONG
BEND CHAMBER OF COMMERCE	BLACK BUTTE HOMEOWNERS	BLUE MT PROT ALLIANCE
CALIFORNIA ENERGY COMPANY	CASCADIA WILDLIFE INSTITUTE	CENTRAL OREGON AUDUBON SOCIETY
CENTRAL OR RUNNING CLUB	DELAWARE RIVER BASINS COMM	DESCHUTES GEOLOGY CLUB
EIS	FRIENDS OF WHITEWATER	HIGH DESERT TRAIL
HHS SPECIAL PROGRAM COORD	HIGH DESERT MUSEUM	IZAAK WALTON LEAGUE OREGON DIVISION
KELLER ENVIRONMENTAL ASSOC	KIWANIS CLUB OF SISTERS	KLAMATH COUNTY CHAMBER OF COMMERCE
L. BUCK CONSENSUS COM	MAZAMAS	MID-OREGON LABOR CONT
MISSOURI RIVER BASIN COMM	MOON COUNTRY SNOWMOBILERS	NATIONAL RESOURCE CONSRV
NATIVE PLANT SOCIETY	NATURE CONSERVANCY	NORTHWEST FORESTRY ASSOCIATION
NORTHWEST RESOURCES	NW PINE ASSOCIATION	OBSIDIANS, INC
ODELL LAKE SUMMER HOME ASS.	OHIO RIVER BASIN	OR GUIDES & PACKERS
OREGON HUNTERS ASSOCIATION	OREGON CASCADE TIMBER	OREGON LLAMAS
OREGON NATURAL RESOURCES	OREGON STATE SNOWMOBILE	OREGON TROUT
ROTARY CLUB	SALEM AUDUBON SOCIETY	SIERRA CLUB
SISTERS FOREST PLAN COMM	SISTERS SNO-GOFERS	SOCIETY OF AMERICAN FORESTERS
SOUTHERN OREGON TIMBER IND	SUNRIVER OWNERS	SURVIVAL CENTER
THUNDERBIRD MOULDING	TROUT UNLIMITED	WALDO WILDERNESS COUNCIL
WASH NATIVE PLANT SOCIETY	WILDERNESS SOCIETY	

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INDIVIDUALS

ABEDON, BRUCE
 AGE, CHUCK
 ANDERSON, STANLEY H
 ANGTEN, ROB
 AUSTIN, ALEX J
 BAER, JR., WILLIAM J
 BAKER, G
 BARRA, JOHNNY
 BEACH, DELORES
 BEAULIEU, LEON
 BERG, CAROLE A.
 BESSEY, ROY E
 BISHOP, GIOIA & JOSHUA
 BLAKESLEE, CHARLES A.
 BOSLER, MALCOLM
 BRANDON, JUNE
 BREWER, BOB
 BRONSON, ROBERT P
 BRUCE, CHARLES
 BURGER, R D & WANDA L.
 BUSH, ALY M
 CAMERON, STEVEN D
 CARLSEN, LESLIE A.
 CARP, TERESA
 CASTELL, LILLEBIL
 CHASE, PHIL & JO
 CHEWNING, CLINTON C.
 CLARK, BERT
 CLARK, R.K.
 COEN, VIRGINIA
 COLLINS, DARREL L
 COOK, GAY G
 COPELAND, J C
 COUNTS, LARRY R.
 CRABTREE, LEONARD
 CRONEN, GARY
 CYRUS, RAY
 DANIEL, FRANCIS & MARY
 DAVIDSON, L. G
 DAVIS, WILLIAM E
 DE VOSS, VERA N
 DESANTIS, NICHOLAS
 DOAN, WILLIAM
 DRAKE, JERRY
 DUNN, K. W
 DYER & FAMILY, RAD
 EBNER, JOHN
 EDWARDS, CATHERINE
 ELLINGSON, ROBERT
 ENGLISH, JERRY
 ERNST, WILL
 EVANS, LLOYD L
 FARLEY, HARRY & JOAN
 FELDMAN, G & V
 FISHER, BOB
 FLANARY, FRED & BETTY
 FORD, CURTIS
 FOSTER, ROBERT
 FRANKEL, RUSSELL
 FRENZEN, PETER
 FROST, ART
 GAIKA, ROGER
 GARNER, JOHN C., JR
 GAUTIER/BAKER, CLAYTON & GAIL
 GERL, BOB
 GILBERT, WILLIAM
 GLADDEN, JEAN
 GOLTZ, DANIEL E
 GOUGH, DAVID W
 GREEN, DAVE
 GREGSON, TOM S
 GRINDSTAFF, DAVID C

ABNEY, RACHEL C B
 ALLEN, CLARENCE
 ANDERSON, TERRY
 ARLEY, TOM
 AYRES, DALE
 BAILEY, L. G
 BAKER, JAMES H
 BARRY, PETER
 BEAMER, NANCY
 BENDER, REESE
 BERGER, J & J
 BETTESWORTH, R. SETH
 BISHOP, JAMES M & ALICE
 BLOOMQUIST, GILBERT & ELAINE
 BOURKE, VIRGINIA
 BRANTLEY, J. CALVIN
 BRIGGS, PHILLIP H
 BROOKS, BILL A.
 BRUNMAN, DENNIS W
 BURK, DEE
 BUSWELL, GENE
 CAMPBELL, DOUGLAS G
 CARLSON, DANIEL E.
 CARPENTER, RONALD E.
 CASTER, W R.
 CHASM, MR. RICHARD M
 CHRISTENSEN, N T
 CLARK, DAVID WADE
 CLARK, ROY
 COFFEY, JOSEPH
 COLLINS, NANCY J
 COOPER, BILL
 COPELAND, MICHAEL D
 COVERLY, MEARL L
 CRANDALL, D. JEAN
 CROSS, G. A. & LORETTA
 DACUS, FRANCIS
 DANIEL, MARK E.
 DAVIS, BERT E.
 DAY, DIANA
 DEGHUEE, JUDIE
 DESMOND, JACK
 DODGE, ROD
 DUBEROW, BERNARD G
 DUPRIEST, DOUGLAS M
 EAMES, CHARLES E., JR.
 EDGAR, MARION
 EIBERT, JOHN
 ELLIS, JAMES O
 ENGLISH, JERRY
 ERWIN, ROBERT AND JUDITH
 EVANS, RAYMOND L
 FARMER, KAY
 FERGUSON, GLEN
 FISHER, DON & LAUREL
 FUNT, GAIL D
 FORD, LARRY & JAN
 FOWLER, JANE
 FRANKLIN, GEORGE E
 FRERES, ROBERT, JR.
 FUCHS, DENNIS & NORMA
 GALLAGHER, MR & MRS VINCE
 GARRETT, ROGER C
 GEISINGER, JIM
 GERL, GARY
 GILCHRIST, BEN
 GLASOW, MARLENE
 GONZALES, FRANCIS
 GOWAN, PAT M
 GREEN, SANDY
 GREINER, KEN
 GROO, TYLER S

ADAIR, RICHARD
 ANDERES, H F & PAT
 ANDERSON, ROBERT L., SR.
 ARMSTRONG, BOB & NANCY
 BABCOCK, CRAIG
 BAILLIE, GORDON C
 BAKER, VALERIE A.
 BARTLETT, USA K.
 BEARDSLEY, COLLEEN
 BENITZ, JOSE L.
 BERRY, DON U
 BIELEFELDT, TALBOT
 BISSET, DAN
 BOND, MARY ELLEN
 BOWERLY, GERALD J
 BRASSARD, LYNN
 BRITTON, JOANNE
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 BRUSSEAU, CLIFFORD
 BURKE, GLENN C
 BUZZARD, WILLIAM A.
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 CARLSON, P L.
 CARPENTER, WILLIAM & SYLVIA
 CATHERS, JOHN & JENNESSE
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 CLINE, EDWARD S
 COGAN, JAMES H
 COLPITTS, WILLIAM S
 COOPER, HAROLD R.
 CORUM, ALLEN
 COVEY, LINDA L.
 CRATES, NANCY
 CROW, JAMES P
 DAGGETT, JACK C
 DANIELS, KENNETH R.
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 DUBOIS, CORNELIA K.
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 EASTER, KENNETH R
 EDGINGTON, JESS
 ELDRIDGE, RONALD K.
 ELSHOFF, CAL & ALICE
 ENGLISH(2), JERRY
 ERWIN, ALAN & MYRA
 EVINGER, ROBERT
 FARRIOR, DANIEL & CATHERINE
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 FISHER, JIM
 FLURY, SUSAN
 FORD, TOM D
 FOWLES, GARY
 FRANKLIN, GREG
 FRESHWATERS, SCOTT C
 FULLBRIGHT, VIRGIL
 GALLAGHER, VINCENT M
 GARRETT, TERRY
 GELLNER, THOMAS L.
 GERVAIS, RICHARD
 GILL, KENT & LOIS
 GLOVER, BILL
 GOODWIN, JAYNE
 GRACE, DON L.
 GREENE, SARAH E.
 GRIFFITH, MARIA
 GROOM, J AND V

ADAMS, DENNIS
 ANDERSON, DONALD R.
 ANDREWS, JOSEPH P
 ATKINSON, RAYMOND G
 BACH, MIKE
 BAIN, JUDY & RANDY
 BALSIGER SANDY
 BATES, ROBYN
 BEARUP, ROBIN
 BENOLD, LAWRENCE
 BERRY, ROBERT W
 BIGELLOW, JAY
 BLACK, JEANE M
 BONNELL, DALE
 BOYD, CAROL
 BREEDEN, J T
 BROADDUS, ROBERT S
 BROWN, JOHN P
 BUELL, MR & MRS D A.
 BURKHOLDER, KENNETH A.
 CABLE, THOMAS
 CANAL, MEL
 CARLSON, PETE
 CARPER, BRIAN & CHARLOTTE
 CHAMBERLAIN, CHARLES
 CHENEY, BRUCE
 CHRISTOPHERSON, BECKY
 CLARK, GEORGE C
 CLUNTON, KEITH W
 COLE, RONNIE R.
 CONLEY, MAGGIE
 COOPER, JACK
 CORUM, JACQUELINE
 COX, GRACE M
 CREW, HENRY
 CROWDER, CLITON
 DALGLIESH, KEN & KATHY
 DASCH, ELIZABETH & FREDRICK
 DAVIS, PAUL & CRYSTALLE
 DE CARNE, TRISTAN & DEBRA
 DELLEN, L. FAYE
 DITTEMORE, JEN
 DOUTHWAITE DAVID & BECKY
 DUCK, DR
 DURR, ROLAND
 EASTON, ART
 EDICK, KEN
 ELKUS, BEN
 ELY, MICHAEL
 ERDMAN, KIMBELL S
 EUBANKS W B
 FAILING, WILLIAM L., JR
 FARRIS, JACK L
 FERGUSON, WANDA
 FISHER, ROBERT
 FLYNN, KURT
 FORRESTER, ROBERT
 FOX, STEPHEN A.
 FREESE, EUGENE & DORIS
 FREY, ED
 GAFFNEY, BILL
 GANONG, FRANK F
 GARTEN, ROY & MARGARET
 GENTIS, WALT
 GEYER, JOHN
 GILLAM, JAMES H
 GLOVER, JAMES
 GOODWIN, KATHY
 GRAHAM, ED
 GREEVE, RODNEY
 GRIFFITHS, SYDNEY
 GRUBER, GERALD

ADAMS, ROD
 ANDERSON, DOUG
 ANGLE, JERRY
 AUGUSTSON, BONNIE
 BAER, WILLIAM J
 BAKER, EARL L.
 BARBER, WILLIAM
 BAUSINSLEY, J
 BEASLEY, LYLE D
 BENSON, NEIL & DIANE
 BERTRAM, JEFF
 BILLINGS, GARY
 BLACKER, DONALD R.
 BORGHIRST, ROBERT
 BOYD, DON
 BRENNER, LORETTA
 BRODIE D
 BROWN, LYNN M
 BULKLEY, DONALD R
 BURR, LAWRENCE
 CALDWELL, DUFFY M
 CANTREL, GARY
 CARMICKLE M E
 CASE, HAROLD D
 CHANCE, TERRY A.
 CRESS, FRANK A.
 CHURCHILL, A.S & VICTORIA
 CLARK, MARCHELLE L.
 COATES, ALAN & EDWIN
 COLE S D
 CONVERSE, PAUL
 COOPER, MICHAEL
 CORWIN, RONALD L.
 COX, SUSAN E
 CRIDER, DAVID
 CROWSON, STEVE
 DANIEL, BARRY L
 DAVENPORT, ROY & JOYCE
 DAVIS, RODNEY
 DE GIOVANNI, LOUIS V
 DENTON, GORDON
 DITTEMORE, MARVIN O
 DOWNEND, ALICE
 DUGAN, WILLIAM R. & ALICE
 DYER, BERNARD R
 EBEL, FREDERICK W
 EDIGER, DENICE
 ELLINGSON, PETER
 ENDICOTT, GWENDOLYN
 ERNST, MARY G
 EULER, H M
 FAMILY, FRENKEL
 FAULKNER, VIRGIL R.
 FINNERAN, STEVE & CAROLINE
 FLANAGAN, PAULINE D
 FOLEY, ROBERT H
 FOSTER, DAVID M
 FRANCIS C E
 FRENCH, ANDY
 FRIESEN, LARRY
 GALE, C J & BILLIE
 GARGER, JEROME
 GASKINS, W
 GERKE, FRED
 GILBERT, CAROL
 GIOT, DENNIS W
 GOLDAMMER, JAY
 GOTCHY, MIKE
 GRAHANE, PAUL J
 GREGG, BETTY C
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 HACKETT, TERRY

Appendix J

Public Participation in Forest Plan Development

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HALL, JOHN	HALLOWAY, JIM	HALPERN, CHARLES	HAMMACK, JONAS	HAMMACK, MELVIN L
HAMMER, JOHN W	HAMPSON, LARRY	HANKS, J WAYNE	HANNAM, JEFFRY	HANSELMAN, JEAN
HANSON, ALEX	HANSON, DAVID R	HARAM, JERRY	HARBISON, JOHN F	HARDIN, CATHEY & RUSH
HARGAS, KENNETH A	HARPER, TIM W	HARR, PETER	HARRIS, ALOHA	HARSHFIELD, MICHAEL
HARSHMAN, WILLIAM	HARTFORD, ROY H	HARWELL, DWANE	HASSING, J A	HATCHER, Y
HATFIELD, ELAINA M	HATTERMAN, RANDOLPH D	HAVLIN, RICHARD L	HAWLEY, VERN & BERNADINE	HAXBY, MIKE
HAYDEN, MARY K	HAYWARD, DENNIS	HEDIN, JOHN	HEGG, R. & D	HELMS, DANIEL J
HENDERSON, WILLIAM N	HENDRICKS, GEORGIA	HERBERT, LYNN	HERBISON, KEITH	HESSSEL, MIKE
HICKS, MICHAEL S	HICKS, RUDY	HIGGINS, CAROLYN	HILGERS, RANDY	HILL, SANDRA
HILLIKE, MARK	HILLS, LEROY A	HILTY, IVY E	HINDS, JACK E	HINZPETER, NORBERT & SUSAN
HOCKETT, BERT L	HODGES, W M	HOERNING, DAVE	HOFER, GUY H	HOFF AND FAMILY TED A
HOFFERD, JOHN	HOFFMAN, KEVIN L	HOFFMAN, LYNN	HOLCOMB, DIANA DEE	HOLLAND, DAVID A
HOLLAND, JOHN L	HOLMAN, HANK & PATIN	HOLMAN, KERRY	HOLMES, ARTHUR W	HOLMES, DON
HOLMES, GARY	HONTON, ED	HOPE, JOHN J	HORNER, RICHARD L	HORRELL, DONALD & LORETTA
HORTMAN, PHILIP W	HORVATH, CAROL	HOSINER, DONALD M	HOUGHTO, ROBERT L	HOWARD, RAY D
HUGHES, MARY & ROBERT	HUGSPETH, JOE	HUNT, BOB G	HUNTSINGER-MICHEL, ALYCE	HURTLEY, DAVE & JUDY
HUSTON, DOLLY	HYLTON, ROSS J	INGHAM, ANN	IPOCK, JACK M	ISAACS, TERRY
ISMAN, HARVEY	IVIE, JAMES R	JACOBS, BRENT & PATTI	JACOBS, FLOYD M	JACOBSEN, CHARLES & MARGE
JACOBY, CONRAD L	JENKINS, DELBERT R	JENSEN, GARY	JENSEN, GREG	JESSUN, R E
JIANG, LONGFIE	JIMENEZ, WANDA M	JOHNSON, ROB	JOHNSON, ELIZABETH	JOHNSON GARY D
JOHNSON, GAYLORD	JOHNSON, JACK	JOHNSON, WALTER	JOHNSON, WILLIAM T	JOHNSTON, EUGENE R
JOLLEY, RUSS	JONES, B M	JONES, F MARVIN & SHERLYN	JONES, MIKEAL E	JORDAN, LARRY & DAVID
JOSEPH, BRUCE	JOURNAGAN, JOYCE	JOYZ, KELLEY	JUDY, JOHN	JUHOLO, UNO
KAPTUR, MICHELLE	KARNES, ROBIN	KASEWETE, BILL	KAYSER, J, ART B	KEARNEY, DONALD
KEEN, MARTA	KEEP, SCOTT R	KEISER, DAVID F	KELLEY, DICK	KELLEY, MARK
KELLEY, RICHARD E	KELLY, DARREL	KELLY, GREER	KELLY, RAYMOND L	KEMP, JON
KENNEDY, ROY M	KERR, GERALD	KERR, STEVEN D	KILMER, BILL	KILPATRICK, KEVIN B
KIMBALL, ED	KINCAID, NEVA L	KING, DR DAVID	KINNAMAN, ANN	KIRBY, KIM
KITCHER, BILL	KNOKE, DALE	KOCHER, MARJORIE B	KONING, MARINUS H, M D	KONO ROBERT H
KORCAPA, THOMAS J	KOSER, KEN	KOSTER, FRITS W	KRAJCIK, MAX	KRAMER BETTY
KRAMER, JUDITH	KRAUSS, JOHN	KREGAR, DAVID M	KREWSON, GREG	KRISTOVICH PENNY
KRUSE, DAVID H	KUNTAR, KLARA	KUNZ, ALDO J	LA COUR, MARSHALL	LAITE, EDWARD
LANCASTER, ROBERT D	LANDERS, LEE	LANGDON, LARRY	LANGDON, LARRY	LARSON, B R
LARSON, DON	LARUE, MIKE	LAUNG, TRACY L	LAWRENCE, C M	LEACH, CHARLES M & JEAN
LEFORS, LAURIE	LENGELE, RAY	LENT, DAVE	LENT, GARY A	LEPPER, JACK
LEVEILLE, WM & PAT	LEWIS, ELLEN	LEWIS, HAZEL B	LEWIS, KRISTEN	LEWIS, MARY L
LEWIS, VIRGIL D	LINMAN, J P	LLOYD, HAROLD G	LOCKYEAR, MAX L	LOHNER, FRED & LORRAINE S
LOOPER, DUANE	LORANCE, ESTHER	LOUGH, WARREN	LOVELAND, PATRICIA	LOWE, WARD A
LUDWIG, ED	LUHMAN, DALE	LUSK, LUCILLE A	LYNCH, LARRY	MACK, GLADYS V
MACY, DON L	MADDOX, ROBERT W	MADSEN, STEVE & LINDA	MAHARY, JANET	MAHONEY, JAMES W
MAJOR, DAVID L	MALTBIE, RB	MANGUM, HAROLD	MANN, JAMES R	MANSFIELD, GARY N
MARCUS, EVERETT	MARCUS, MARILYN	MARGUERITE, DOMINIQUE	MARSH, DULOUISE	MARSH, FRANCIS
MARSHALL, DENNIS G	MARTIN, CLINTON	MARTIN, WESLEY	MARVIN, MARLA	MATHEWS, LEO R
MATHISEN, LEN	MAUDLIN, DICK	MAXWELL, MARVIN L	MAYFIELD, R D	MAYFIELD, STEVE
MAYNARD, DAN E, JR	MAYO, JAMES D	MC CALLUM, ALBERT A	MC ELFRESH, ADRIAN M	MCCALLUM, W B
MCCCLAIN, BERT	MCCCLAIN, MEL & REGINIA	MCCLELLAN, PAUL J	MCCOIN, LYNN & SHERYL	MCCONOCHE WILLIAM A
MCGIAU, ELMER E	MCGILVRAY, BONITA	MCGOHIGLE, DAVID K	MCGREGOR, CHARLES W	MCGREGOR, JAMES L
MCJUNKIN, ROGER	MCKINLEY, RUSSELL J	MCLAIN, PAT	MCLAUGHLIN, GRACE	MCNAMARA, WESLEY & ANN
MCSWAIN, MICHELLE	MCVAY, JACK S	MCVAY, SHAUN	MEECE, B	MEGOWAN, PATRICK S
MELLER, VICTORIA	MENDOZA, EUGENE	MENEFEE, DONALD & LEAH	MENNERLY, THOMAS M	MESSINGER, R C
METCALF, ERNEST	METTEER, GORDON D	MICHAELSON, JON	MICHEL, KATHLEEN A	MICKEL, GARY
MILANO, GARY	MILLAR, ANDREW C	MILLAR, CONSTANCE I	MILLAR, MRS TERESA C	MILLER, BRUCE H
MILLER, CAL	MILLER, CLARK J	MILLER, D B	MILLER, JAMES R	MILLER, JERRY
MILLER, JUDY	MILLER, ROBERT & ALETLA	MILLER, SHIRLEY	MILLER, STERLING	MILLER, JOHN JR
MILLER, JOHN F, JR	MILLS, KAREN	MINNIEAR, LARRY R	MITCHELL, JAMES R	MITZEL, VERNON
MOLLMAN, DAVE	MONFORE, JOHN	MOODY, P L	MOORE, EARL L	MOORE, JACKSON & THELMA
MOORE, PATRICIA	MOREHEAD, PAUL	MOREHOUSE, MARION R	MORGAN, PEGGY & JOHN	MORSELLO, GERALD
MOSAR, MERLE A	MOSAR, MERLE A	MOSS, RICHARD L	MOUSER, JERRY M	MUELLER, MIDGE & RICHARD
MULLIGAN, DAN	MULLIKIN, GORDON	MYRON, JIM	NANCE, PHILIP	NEE, JAN
NEEL, PEGGY L	NEIL FAMILY	NELSON, DAVID	NELSON, DAVID R	NELSON, ERIC
NELSON, GINNY	NELSON, HARRY T	NELSON, JAKE J	NELSON, LONA M	NETH, WILLIS M
NEWELL, BILL	NEWMAN, JOHN G	NEWPORT, CARL A	NICHAMOFF, PAUL	NICHOLSON, DOUGLAS
NICKISON, TED	NIELSEN, LAWRENCE	NORMAN, JULIE	NORMAN, REGINA R	NORRIS, JOHNNIE C
NYSTROM, BARBARA & ROBERT	O'BRIEN, PATRICK J	O'DONNELL, JIM	O HARA HARR, SHARON	O MARA, NATALIE
O REILLY, BRIAN	OBERDOERFER, RICHARD	ORR, MR. & MRS. PAUL	ORR, WAYNE E	OTT, RODNEY
OVERCASH, DUANE	OVERTON, JAMES	OWEN, GENE L	OWEN, JACK	OWEN, KENNETH D
OWEN, MARANNE	OWENS, DONNA	OWENS, M H	PAGE, CATHLEEN L	PAGE, SUSAN
PALMER, KINGDON, JR	PANGALLO, CLIFF	PANKKEY, GARY & HAYSEL	PARKER, WALTER	PARKS, DONALD
PARTIN, TOM	PATRICK, DWAYNE	PATTY, LAURA	PAVLAT, WARREN H	PAYNE, FLOYD & WINIFRED
PEARCE, HAROLD L	PEARSON, FRANK	PENTECOST, LOIS	PEPIN, SUZANNE	PEPINCOST, SUZANNE
PERISICH, PETER H	PERKINS, J MARK	PERKINS, JAY DEE	PETERSEN, JAMES D	PETERSEN, JAN
PETERSEN, LARRY	PETERSON, CLYDE	PETERSON, CLARENCE H, JR	PETRIE, GORDON	PETTY, DEAN
PEX, DAVID	PHILLIPS, JEAN	PHILLIPS, THOMAS	PIERCE, GENE	PIERCE, LINDSAY C
PISAN, LOUIS	PLATT, PHILIP E	PLATZ, BOBO	PLATZ, F R & LORETTA	POINDEXTER, STRATTON
POLING, JUDY	PONCIL, ERNEST E & KATHRYN	POOF, JANE	POPPE, REX E	PORCH, DELORES F
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Appendix J

Public Participation in Forest Plan Development

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 RAWLS, JEAN
 REED, STARR W
 RHOADS, LEE A.
 RITCHEY, MARTIN
 ROBINSON, EDWINA
 ROOPER, DON
 ROUNDS, JOHN A.
 RUPERT, R & M
 RUSSEU, MIKE
 SALLMAN, R.J
 SARRETT, JACK A.
 SCHMIDT, KURT
 SCHOOR, MILDRED & LENORE
 SCHULZE, PAUL
 SCOTT, VERNON R.
 SEIDEL, KAREN M
 SHAW, THELMA
 SHEPARDSON, STAN
 SHINN, JOHN
 SHULTS, LINDA A.
 SIMS, LONNA
 SMALLEY, SANDRA K. DVM

SMITH, J & R.
 SMITH, LLOYD A.
 SNEAD, BARBARA A.
 SPANSEL, RICK A.
 STANDISH, CHRISTIAN G
 STENNETT, DALE
 STEVENS, KENT
 STILLWELL, LESTER W
 SULLIVAN, TERRY A.
 SWEENEY, MARY ELLEN
 TAYER, ROBERT L
 THAY, HAROLD
 THORNTON, DAVID P
 TOFTDAHL, DWIGHT E
 TOUVE, W.A.
 TRIPP, WAYNE
 TUMIDAJ, LES
 UULL, RICHARD
 VAN DE WALKER, HUGH M
 VANUITERT, GARY
 VINCENT, DAVID
 WADASKY, DANIEL J
 WARD, ELDEN C
 WATKINS, TOD
 WEIDNER, NAOMI
 WELCH, JOHN T
 WEST, CHAR
 WHEELER BARTOL, GEOFFREY
 WIENKE, KEN
 WILLIAMS, ALAN
 WINGER, MARK H
 WITTRUP, RICH
 WOXELL, TOM
 WRIGHT, JEFF L
 WYKES, R. THOMAS
 ZEHNER, JIMMY L

POWELL, JAMES H & MARY
 PUNTON, AMANDA
 RAMOSS, TOM
 READ, JOHN
 REES, HELEN
 RIAL, DANIEL
 ROBERT, JOHN
 ROBINSON, PEGGY
 ROPER, J P & E K.
 RUDDELL, REBECCA S
 RUSH, ALICE
 RUSSO, DON
 SANDER, TERENCE
 SAUNDERS, JOHN C
 SCHMITKE, DANIEL C
 SCHOTT, JOSEPH C
 SCHUMAN, DON
 SEAWARD, WARREN
 SENFF, MAXINE
 SHEARER, PETER W
 SHERIDAN, DENNIS
 SHOCKEY, GARY
 SIKES, TOMMY
 SITZMAN, JERRY ALAN
 SMALLWOOD, BARBARA &
 STEVE
 SMITH, JUDITH O
 SMITH, MARY B
 SODERBERG, ROBERT W
 SPEAKMAN, JAMES
 STANFORD, THAD C, M D P C
 STEPHENS, SUZETTE
 STEWART, GEORGE A.
 STOCKER, DENNIS R
 SURAN, ALFHILD
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 TAYLOR, GARY
 THIESSIN, ALBERTA E
 TICHENOR, STEVEN
 TOMLINSON, NORA
 TOVEY, ROBERT
 TRIVETT, DORA & GEORGE E
 TUN, GARY
 VAAGEN, DAVID I
 VAN HISE, FAYE & WALLACE
 VARCOE, R.
 VITTER, JOE
 WADDELL, NORM
 WARD, JOHN S
 WATSON, ROBERT P
 WEIL, MARY & DAVE
 WELCH, WILLIAM A.
 WEST, ROBERT
 WHITAKER, ROBERT L
 WIGGINS, JANE
 WILSON, EDWARD E
 WINTER, WALTER C
 WOLFE, WALT
 WRAY/JUDITH SPARKS, JULIS
 WRIGHT, KENNETH A.
 YAGER, JAMES E
 ZIGELHOFER, ART

PRINCE, SUSAN
 QUANT, JOE F
 RAMSEY, BETTY & CHET
 RECHTIN, JULIE
 REILLY, ALLEN J
 RICE, JEFFERY L.
 ROBERTS, AGNES & IVAN
 RODGERS, WANDA
 ROSE, DAVID P
 RUGG, DELAYNE
 RUSHING, CHUCK
 RUST, ELOUISE
 SANDERS, JOHN C
 SAXTON, LARRY
 SCHNEIDER, JAMES N
 SCHRAEDER, KIRK
 SCOFIELD, RUTH
 SEAY, AMBRIA J
 SEXTON, RICHARD W
 SHELTON, STEVE
 SHERMAN, JEFFREY G
 SHOCKEY, KEN D
 SILVER, HOWARD
 SKOTTE, DANIEL M , SR.
 SMITH, DONNA

SMITH, KELLY
 SMITH, PAUL
 SONFIELD, A.L.
 SPENCER, MARY KATE
 STARR, MRS. CLARA
 STEPHENSON, GEORGE
 STICKLEN, PAUL E.
 STOREY, DUANE L.
 SUTHERLAND, EDWIN A.
 TABER, R. J
 TAYLOR, LYNN
 THOMAS, M L
 TIMMENS, JOY
 TOOLE, KEN & GRACE
 TRACH, ALAN B
 TRUMBULL, LARRY & LEE
 TURNER, MERLE & MARJORIE
 VAIL, BARBARA
 VAN MATRE, DENNIS E.
 VARLEY, T
 VITTLE, MICHAEL S
 WALKER, BETTY
 WARNEN, RICH
 WEAVER, LANCE
 WEINBERGER, ROBERT G
 WELDEN, STEVE
 WESTENDORF, GREG
 WHITEHILL, STANLEY L.
 WILBER, BRIAN
 WILSON, HARRY E.
 WISBECK, STEVEN W
 WOLSZON, MARGARET A.
 WRIGHT, CLIFFORD M
 WRIGHT, SHERM
 YOUNG, BASIL E
 ZOOK, SHIRLEY

PRINCE, WILLIAM S
 QUEST, PETER C
 RAPP, CARL J
 RECTOR, CAROL & JAMES
 REYER, PAUL
 RICH, F BRENT
 ROBERTS, RAY E
 ROGERS, SCOTT A.
 ROSENBAUM, L.A.
 RUNCO, M ROBIN
 RUSSELL, KATHARINE & KIM
 RYAN, ROBIN
 SANDS, LAURA LEE
 SAXTON, PHIL
 SCHNEIDERMAN, SHARON
 SCHREIBER, LAURA
 SCOTT, RONALD
 SEIBERT, NORMA L.
 SHARKEY, JA
 SHELTON, ROY V
 SHERRELL, AUDREY R.
 SHORES, LYNN
 SIMONS, ERNEST J III
 SLEGEL, LOUIS
 SMITH, ELAINE

SMITH, KELLY
 SMITH, ROGER D
 SORWEIDE, ROBERT & WANDA
 SPONGBERG, RAY & JOAN
 STEELE, DORIS
 STEPHENSON, GEORGE
 STILL, JIMMIE & GLORIA
 STRUCK, CHRISTOPHER J
 SWANSON, DORA
 TANZEY, WJ & EJ
 TERRELL, CHARLES D
 THOMAS, MARY LOU
 TIPTON, GILBERT & GLADYS
 TORKELSON, C S
 TRACY, NANCYLOU & STEPHEN
 TSCHERSICH, HANS U M D
 UERLINGS JAMES
 VAN CISE, D J
 VAN ORSOW, EUGENE
 VERRET, JOSEPH U
 VOOS, STEVE
 WALKER, MERYLIN A.
 WARREN, LARRY
 WEAVER, MIKE
 WEISLER, MELANIE
 WELKER, DAVE
 WESTFALL, PAMELA S
 WICKER, KERRY A.
 WILBER, DALE R., JR.
 WILSON, JAMES D
 WISEMAN, NAYDA
 WOOD, CHARLES R.
 WRIGHT, FRANK
 WUEHLER, DEE & JIM
 ZACHOW, MARILYN

PRINDLE, R. & J
 RAGON, ROBERT
 RASMUSSEN, DALE R
 REED, JOHN
 REYNOLDS, JULIE ANN
 RICHARDS, STEVEN C
 ROBINSON, CHERI L
 ROGERSON, MRS LOUIS
 ROSS, MAX
 RUNCO M ROBIN
 RUSSELL, VIC
 RYSTEDT, ALEX E.
 SAPERSTEIN, RALPH
 SCHAUER, M LISS
 SCHNOOR, DOROTHY M
 SCHROER GREGG
 SCOTT, SARA A.
 SEID, VICKY
 SHAW, JESSE G
 SHEPARD CLAY C
 SHILLING, GARY
 SHRUM, KENNETH & PATRICIA
 SIMONSON CARROLL R
 SLEGIK, MARK
 SMITH, ETHEL I

SMITH, LAURIE
 SMOLAND PAUL
 SOUTHWARD C V
 SPRING, RICHARD U
 STEINLEY GERI
 STEVENS BRUCE
 STILLNER GARRY
 SULLIVAN, MICHAEL D
 SWANSON JOHN R.
 TAPLEY, ADNA
 TERWALT, DAVE & LINDA
 THOMPSON, JOYCE ELMA
 TITTLE, AVERY GARY
 TORRES, DAVID
 TRANSEN, MRS KATHY
 TUCKERER, TOM D
 UHRIMAN, CYNTHIA
 VAN DATTA CHAPITO JOAN
 VAN PATTEN KENDRA
 VICE, WILLIAM A.
 VROMAN, GERALD P
 WALSH THOMAS E
 WATERS LORRIE A
 WEBSTER DAVID L
 WEISS, ROBERT J
 WELLS, GEORGE
 WHEELER, ANN
 WICKERSHAM, RON
 WILHELM CHERYL
 WILSON, WALLACE E
 WITTE, DONALD G
 WOOD GORDON
 WRIGHT GARY
 WYATT WILLIAM
 ZAPPELLI FRED

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Public Involvement Between the Draft Environmental Impact Statement and the Final Environmental Impact Statement

The Proposed Deschutes National Forest Land and Resource Management Plan, and the Draft Environmental Impact Statement for the Proposed Plan, showing the Preferred Alternative, were published and released for public review and comment on January 10, 1986. The public comment period closed May 9, 1986.

The purpose of the public comment period was to gather all the public concerns for resource management issues contained in the Proposed Plan and DEIS. To be certain that as wide an audience as possible was exposed to the Proposed Plan and DEIS, Deschutes National Forest personnel held press conferences, issued news releases and mailed information to concerned groups and individuals.

The Forest planning staff put together a presentation which explained the major resource issues in the Proposed Plan, and outlined how each resource was to be managed under the Preferred Alternative. Forest Service personnel then traveled throughout Oregon to present the program to groups ranging from local church groups to Congressional delegations, and from timber industry groups to environmental organizations. Presentations were made to County Commissioners and Chambers of Commerce throughout Central Oregon regarding potential economic effects of the Proposed Plan.

A 30-minute program was taped by the Oregon Public Broadcasting System which covered all the material in the Forest Service presentation. Forest Supervisor Dave Mohla and Forest Planning Staff Officer Larry Mullen were interviewed for the program. The program was broadcast by PBS three times during the public comment period. A similar 30-minute program was taped and aired by a Portland-based television station.

Each of the presentations, news releases, letters, newspaper articles and programs encouraged the public to address their written concerns for particular resource issues to the Forest Service by May 9, 1986. Forest Service planning personnel also practiced an "open door" policy throughout

the public comment period, making themselves available on the telephone and for meetings in the Forest Supervisor's Office.

The results of this concentrated effort to involve the public in the planning process were impressive. The Deschutes National Forest received over 1600 written comments to the Proposed Plan and Draft Environmental Impact Statement. The comments were carefully analyzed by planning personnel and entered into a special computer program according to the resource issue addressed. Comments and questions received showed that the public was well-informed concerning the planning process in general and the elements of the Proposed Plan and DEIS in particular.

Three alternatives included in the Draft EIS, Alternatives D, F and H, gained essentially no public support during the public comment period. As a result, they were dropped from detailed analysis in the Final EIS. They will be discussed as alternatives which were considered, but not displayed in detail in the Final EIS.

There were also several changes in the Preferred Alternative between the Draft EIS and the Final EIS which can be attributed to the high level of public involvement during the public comment period. The proposed departure schedule for timber harvest was dropped due to an overwhelming rejection of the schedule by the public, including the timber industry and environmental groups, based on the written responses received. Opposition to clearcutting was expressed by approximately 60% of the written comments, and was expressed verbally by concerned private citizens, environmental groups and the timber industry at the numerous presentations and open houses held to outline the Proposed Plan. As a result, Forest Service silviculturalists developed an uneven-aged management system for Ponderosa pine stands.

Other key issues which arose during the public comment period, and resulted in revisions to standards/guidelines for the Final Land and Resource Management Plan, or changes in Management Area Allocations, included: visual resource management (particularly for the area on and around Black Butte and in the Metolius River Basin area), fisheries management, manage-

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ment of riparian areas, water quality in the Deschutes River, roadless area management, Wild and Scenic River designations, old growth timber management and "big trees", snag levels, elk habitat management, mule deer habitat management, management for other wildlife species such as Thompson's big-eared bat, the great grey owl, and spotted owl, and a comparison of economic effects of management for timber versus management for other resources (wildlife, recreation, etc.).

Changes in the Management Area Allocations also occurred as a result of the Omnibus Oregon Wild and Scenic Rivers Act of 1988 and the Final Supplement for the Spotted Owl Management Environmental Impact Statement in 1988

The four year-plus period between the Draft and Final Plan has permitted extensive discussion to continue with our publics over the main issues which arose during the public comment period. Some issues have been refined to such a degree by public comment and input that they should present little further concern after the release of the Final Environmental Impact Statement and Final Land and Resource Management Plan. We have had considerable time to educate the public and to modify our position in the draft. In addition, we have kept the public and the Oregon delegation informed through periodic newsletters (Forest Plan Reports), press releases and articles in the newspaper

Public involvement has been a key part of the planning process since it began in 1978, and has continued through to the upcoming release of the Final EIS. The result of this public commitment to the Deschutes Land and Resource Management Plan has been a combined Forest Service/public effort in the determination of major issues for the Proposed Plan, the development of the Alternatives, and the refinement of standards/guidelines in the Final Plan and of the Preferred Alternative presented in the Final EIS.

Public Input Chronology for the Proposed Forest Plan and DEIS

1986

1/8/86:

Press conference in Portland, Oregon through Regional Office to announce up-coming release of the Draft Environmental Impact Statement for the Deschutes National Forest Land Management Plan. Stated that there would be a public comment period for the Proposed Plan and DEIS, ending on May 9, 1986. Press conference attended by media and representatives of Northwest Pine Association

1/10/86:

Draft Environmental Impact Statement for the Deschutes National Forest Land Management Plan published.

"

Forest Plan Report. Announced that the Draft EIS and Plan was ready for public review, and explained the 70-page Reviewers Guide. The Preferred Alternative was briefly outlined and the public comment period dates were included. Also included were phone numbers for the Forest Planner and Public Affairs Officer to contact for more information, or to schedule a meeting

"

Forest Service News Release "Proposed Deschutes Forest Plan Available for Comment" Announced that the Proposed Management Plan and Draft Environmental Impact Statement (DEIS) were available for public review and comment. Summarized some of the major issues for the Management Plan and stated where information and copies of the Plan, DEIS and Reviewer's Guide could be obtained. Public comments must be received by May 9, 1986.

"

Forest Service News Release "Firewood - How Much For How

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	Long?" Outlined concerns for a continuing supply of firewood which will be addressed through the Land Management Plan for the Deschutes National Forest. Article encouraged people to read and comment on the proposed Plan and DEIS using the Reviewers Guide.				
1/12/86:	Article in Bend Bulletin "Forest Plan Unveiled" Described Plan and DEIS with 8 alternatives, also highlights of the Plan for timber, recreation, geothermal, and Wild and Scenic River possibilities. Copies of DEIS available for public review; meetings to be held in Central Oregon and Willamette Valley in March and April Public comment period ends May 9, 1986. Sierra Club sponsoring workshop on January 18 on how to read and respond to the Plan and DEIS.				of Sierra Club; conducted by Bill Arthur, Sierra Club's associate rep for the Northwest. Held at Deschutes Room I at COCC from 9 am to 4 pm. Forest Service attended workshop to provide overview of the Plan and information Key issue raised at the workshop was lack of attention given in the proposed Forest Plan to water quality in the Deschutes River and to fisheries. Was first time the issue had been raised; resulted in specific Standards and Guidelines being developed for fisheries and water quality
		1/19/86.			Article in Bend Bulletin "Club Gives Hints for Plan Critiques" Outlined what occurred at Sierra Club Workshop. Stated where copies of Plan and DEIS could be reviewed, and gave examples of how to respond to a particular alternative Quoted Bill Arthur saying that preferred alternative is most likely the one that the Forest Service would adopt. He advised people to write the Forest Service if they objected to plans for a particular area of the Forest For help, contact the Forest Service, or group who will be closely reviewing Plan and DEIS such as Sierra Club.
1/16/86:	Forest Service personnel attended meeting of Society of American Foresters to present an overview of the proposed Forest Plan and the major issues of the Plan. Meeting was also attended by local television station; interviewed loggers who had recently been laid off to determine their reactions Forest Service clarified that the proposed Plan was in draft form and was not responsible for current slow-down in local timber industry. First time question was raised of effect of timber industry-generated dollars vs dollars generated by service industries, such as tourism and recreation. Became an on-going discussion with many groups concerned with local economy.				
		1/28/86			Article in Bend Bulletin "Plan Addresses Deschutes Uses". Outlined some of the key points in the Plan regarding timber, recreation, game management, firewood, geothermal, and Wild and Scenic Rivers Copies of Plan were available for review approx 10 days later than originally planned due to delay in mailing from printer in Salt Lake City, UT Stated that public hearings on Plan would be held beginning with March 12 meeting in Redmond.
1/18/86:	Public workshop on how to read and respond to Forest Plan and DEIS. Sponsored by Juniper Group				

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<p>Article in Bend Bulletin "Reviews Set in February". Coalition of local conservation groups (Deschutes Forest Planning Citizens Group) to hold a series of meetings to discuss Plan and DEIS Group composed of Oregon Natural Resource Council, Juniper Group of Sierra Club, Oregon Hunters Association, Central Oregon Audubon Society, and local Nordic Ski Clubs. Stated that meetings were to be held each Tuesday and Thursday night, beginning on February 4, and would cover a different aspect of the Plan and DEIS each meeting.</p>		<p>Economic Development Department. Agencies generally accepted the components of the proposed Forest Plan, DEIS and preferred alternative.</p>
<p>1/29/86:</p>	<p>Letter mailed to permittees, applicants and others interested in the management direction being proposed for Outfitter/Guide and Recreation Event Special-Use Permits in the Draft Land and Resource Management Plan and DEIS. Letter mailed to advise them of the release of the Plan and DEIS and of the public comment period set for the next few months Explained that to be included in public comment period were a series of public meetings which were designed to encourage written comments. Comments received would then be analyzed and included in the Final Plan.</p>	<p>January: Meeting with Environmental Protection Agency representatives from the Seattle Office regarding Standards and Guidelines for water quality and riparian environment. Discussed their concerns, resulted in changes and revision to Standards and Guidelines to be included in Forest Plan to correct or mitigate their concerns.</p> <p>January: Half-day meeting between Forest Service Planning personnel and the editorial staff for the Oregonian newspaper. Presentation and over- view of the proposed Forest Plan, the Draft Environmental Impact Statement and preferred alternative Discussed all major resource issues and how they are addressed in the preferred alternative. Also outlined the public comment period and the Reviewer's Guide for the DEIS.</p>
<p>January.</p>	<p>Deschutes NF Planning personnel met in Corvallis, Oregon with key State Agencies to present an overview of the proposed Forest Plan, Draft Environmental Impact Statement and preferred alternative. State Agencies represented: Oregon Department of Fish and Wildlife, Parks and Recreation, Water Resources, State Lands, Department of Energy, Department of Geology & Minerals, State Forestry Department, Department of Environmental Quality and the</p>	<p>January: Monthly meeting between Forest Service Planning personnel and Bend Chamber of Commerce regarding proposed Forest Plan and DEIS, and the effect on the local area Opened an on-going dialogue regarding the effect of the timber industry-related dollars vs. the effect of service industry-related dollars (from tourism, recreation, real estate development, etc) on the local economy, and the importance of each industry.</p> <p>2/4/86. Deschutes Forest Planning Citizens Group public meeting Discussed Plan's effect on recreation First of series of meetings organized by Juniper Group of</p>

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	Sierra Club. Meetings scheduled every Tuesday and Thursday night for approximately three weeks; different section of the Forest Plan and DEIS was covered at each meeting.	"	Forest Plan Report. Announced that the Draft Environmental Impact Statement was delayed in mailing from the printer in Salt Lake City, Utah, but now should be received by the public for review. Also announced meeting dates and locations for the open houses to present.
2/6/86:	Deschutes Forest Planning Citizens Group public meeting. Discussed wildlife issues as a result of the proposed Plan. Key issues raised involved more information on the Thompson's big-eared bat and the great grey owl. Resulted in development of Standards and Guidelines for the bat and great grey owl which were included in the revised Plan	2/13/86:	The Forest Plan and DEIS Report explained some of the terminology used in the Forest Plan and DEIS, and corrected some errors in the Reviewer's Guide, Response Form, DEIS and Forest Plan.
2/9/86:	Article in Bend Bulletin "Future Forest Will Look Younger".	2/14/86:	Article in Bend Bulletin "DAW to Give Views" Announced that DAW would present its views on Forest Plan on February 21 at 11 am. Local, state and national politicians were invited. Focus on annual harvest levels if Plan is adopted; concern is that the levels are too low. Have been encouraging DAW workers to write congressman about proposed Plan.
"	Article in Bend Bulletin "Public Invited to Review Plan". Reminded public that Plan was available for review. For further information, call Greg McClarren. Also announced meeting of Deschutes Forest Planning Citizens Group every Tuesday and Thursday night.	"	Article in Bend Bulletin "Forest Plan Meetings Set" Announced schedule of public open houses for the Plan.
2/11/86:	Deschutes Forest Planning Citizens Group public meeting. Timber issues were discussed; representatives of environmental groups and the timber industry were present. Key issues raised included the management of roadless areas, and the effects on the local economy of the timber industry vs the service (recreation/tourism) industry	2/18/86:	Deschutes Forest Planning Citizens Group public meeting. Last of the series of scheduled meetings Discussed geothermal issues for the Deschutes National Forest
		Feb	Forest Service analysts created a presentation for the Supervisor's Advisory Group that analyzed the relation between economics tied to timber vs. economics tied to service-related issues such as tourism and recreation Analysis showed that money generated through timber tended to be very cyclic, and also tended to leave the local area, while money gener-
2/13/86:	Deschutes Forest Planning Citizens Group public meeting. Forest Service not represented at this meeting. Discussed water issues affected by the Forest Plan		

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ated through service areas tended to be more steady and to stay in the local area. Conclusion is that there is no need to choose between timber and recreation. Best option for the local economy is to diversify and include both.	3/13/86	manage the resource for multiple use Forest Service Open House meeting for proposed Forest Plan and DEIS--Redmond Fire Hall, Redmond, Oregon
Forest Service Planning personnel made presentation to Oregon Association of County Commissioners. Group composed of county commissioners from throughout the state. Presented overview of the proposed Forest Plan, the DEIS and preferred alternative. Outlined major resource issues and how they were addressed.	3/19/86.	Forest Service Open House meeting for proposed Forest Plan and DEIS--Sisters Fire Hall, Sisters, Oregon.
	3/20/86:	Article in Bend Bulletin "Informed Residents Discuss Forest Plan" Follow-up article to Sisters Open House for proposed Plan. Approx 25 people attended Sisters Open House. Public seemed to be well-informed about Plan and DEIS. Public comment period ends May 9. Also announced next meeting to be March 27 at Camp Sherman
Dave Mohla, Forest Supervisor and Larry Mullen, Planning Staff Officer taped a 30-minute program for the Oregon Public Broadcasting System. The program consisted of the complete presentation and overview of the proposed Forest Plan, the Draft Environmental Impact Statement and the preferred alternative. The overview covered all the major resource issues of the Plan, descriptions of Management Areas, and maps and charts outlining various aspects of the proposed Forest Plan.	3/27/86.	Forest Service Open House meeting for proposed Forest Plan and DEIS--Camp Sherman Community Hall, Camp Sherman, Oregon
	3/31/86:	Forest Service Open House meeting for proposed Forest Plan and DEIS--La Pine Junior High School cafeteria, La Pine, Oregon.
	March	Planning Staff met with Forest Service personnel on each District, the Redmond Air Center, and Bend Pine Nursery to present an overview of the proposed Forest Plan, Draft Environmental Impact Statement and preferred alternative.
Monthly meeting between Forest Service Planning personnel and Bend Chamber of Commerce regarding proposed Forest Plan and DEIS, and the potential effects on the local area. Presented analysis comparing timber-generated dollars vs service area-generated dollars and the conclusion that there is no need to choose between timber and other resources on the Forest. The best option for the local economy is to diversify and	March:	Presentation and overview of Forest Plan, taped earlier for Oregon Public Broadcasting System by Forest Supervisor Dave Mohla and Planning Staff Officer Larry Mullen, aired again on local PBS station. Also included information regarding public comment

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	period, and where to get more information and copies of the Reviewer's Guide for the DEIS and proposed Forest Plan.			roadless areas on the Deschutes Charlton and Maiden Peak roadless areas. Showed on a map that the protection of those two areas would complete a string of undeveloped areas along the Cascade Crest stretching from Canada to Northern California. Decision was made to include those two roadless areas in the Undeveloped Recreation Management Area
March:	Monthly meeting between Forest Service Planning personnel and Bend Chamber of Commerce regarding proposed Forest Plan and DEIS, and the potential effects on the local area			
March:	Meeting between Forest Service Planning personnel and Madras Chamber of Commerce regarding proposed Forest Plan and DEIS, and potential effects on the local area. Presented overview of Plan and issues.	4/3/86:		Congressman Bob Smith (Oregon's 2nd District) and Congressman Sid Morrison (Washington's 4th District) hosted a public information meeting at the Central Oregon Community College in Bend that was attended by over 75 people. At the session, presentations were made by conservationists, woodproduct manufacturers, economic development interests, tourism and recreation representatives, logging and labor people, and the Forest Service. Bend television station Channel 21 was also present. The transcript of the session will be given to the Forest Service for consideration as input to the Forest Plan and Draft Environmental Impact Statement
4/1/86:	Article in Bend Bulletin "Plan Alternative Backed--Industry Offers Its Choice". Described Central Oregon Alternative, alternative proposed by timber industry to ensure that timber harvest levels are high enough to sustain local timber industry and jobs. Alternative proposed to increase Ponderosa harvest levels by 40 MMBF over Forest Service proposal in order to continue to supply mills. Alternative was presented on behalf of Citizens for Responsible Forest Management, a group representing three timber industry associations and several independent operations in Midstate. Stated that copies of pamphlet describing alternative were available through DAW			
		4/8/86:		Forest Service Open House meeting for proposed Forest Plan and DEIS--Gilchrist Restaurant and Lounge, Gilchrist, Oregon.
		4/10/86:		Forest Service Open House meeting for proposed Forest Plan and DEIS--Deschutes Room, Riverhouse Motor Inn, Bend, Oregon
4/2/86:	Forest Service Open House meeting for proposed Forest Plan and DEIS--Hilton Hotel Convention Center, Eugene, Oregon. Key issue raised involved management of roadless areas. Individual attending meeting offered explanation of importance of maintaining undeveloped condition in two			Forest Plan Report. Highlighted specific issues as well as areas of the forest that people have been concerned about: Big Marsh and the Oregon Cascade Recreation Area, the Metolius River Corridor, and the question of how much

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	Ponderosa Pine is enough. Discussed the meetings held to this point, and the release of the Forest Plan mailing list to outside organizations and individuals. Also included a reminder of the closure date for the public comment period: May 9, 1986.		management for inclusion in the revisions to the Forest Plan
4/13/86	Article in Bend Bulletin "Open House on Deschutes Land Plan Draws Questions from Curious Crowd". Recap of Open House on 4/10 at Riverhouse; approx. 60 people attended. Issues raised at meeting ranged from geothermal to timber harvest levels. Article stated that the proposed Plan has been presented to 55 organizations around the State by Forest Service officials, in addition to the seven Open Houses held in Central Oregon and the Willamette Valley.	April:	Field trip on Sisters District to examine timber harvest methods Jim McClain, representing timber interests; Paul Dewey, Sisters Forest Planning Committee, and Dr. Stu Garrett, representing other environmental interests. Don Pederson, Timber Staff Officer and Larry Mullen, Planning Staff Officer for Deschutes National Forest.
4/15/86:	Forest Service Open House meeting for proposed Forest Plan and DEIS--Winema Hotel, Ballroom, Klamath Falls, Oregon.		Purpose of trip was to define what was "acceptable" in appearance by comparison with an actual site, rather than vague description. Was the key to defining the uneven-aged management program as preferred alternative to clearcutting. Based on this meeting, silviculturists were able to start working on uneven-aged management yield tables for revisions to the Forest Plan
4/16/86:	Article in Bend Bulletin "Extensions Asked on Forest Plan" Stated that there have been requests made to Regional Forester to extend public comment period due to delay in receiving Plan from printer. Also not able to reach certain areas of Forest to view effects on ground due to snow.	April:	Forest Service planning personnel met with Jim Noteboom, attorney representing the Confederated Tribes of Warm Springs and the Tribal Council. Purpose of meeting was to define Tribes position regarding Wild and Scenic River recommendations for the Metolius River, particularly the lower Metolius. Tribe prefers no recommendation for the lower Metolius to be included in the National System Discussion begun for agreement to be signed by the Department of Agriculture and Department of Interior (Bureau of Indian Affairs) with the Confederated Tribes to manage the lower Metolius and area around the Horn of the Metolius to provide a Primitive Recreation Experience as defined by the Recreation Opportunity Spectrum.
April.	Trout Unlimited and Central Oregon Flyfishers came in to Deschutes National Forest Supervisor's Office to bring in written comments and discuss weaknesses in proposed Forest Plan and DEIS regarding water quality, particularly for the Deschutes River, and fisheries management. Resulted in specific Standards and Guidelines being written for water quality and fisheries habitat		

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April:	Forest Service planning personnel met with Congressman De Fazio's staff in Eugene regarding status of Roadless Areas, particularly the Charlton and Maiden Peak Roadless Areas. Informed him of decision to change the allocation for those two Roadless Areas to Undeveloped Recreation. This change in allocation would complete the string of undeveloped areas along the Cascade Crest stretching from Canada to Northern California.		PBS station. Also included information regarding public comment period, and where to get more information and copies of the Reviewer's Guide for the DEIS and proposed Forest Plan.
		April:	Thirty-minute presentation and overview of Forest Plan taped for a Portland television station. Similar to presentation taped for PBS
		April:	Deschutes NF Planning personnel held series of meetings in Prineville with the Ochoco National Forest and Prineville District of Bureau of Land Management. Presented proposed Forest Plan and DEIS with preferred alternative
April:	Presentations to County Commissioners for Klamath County in Klamath Falls and to County Commissioners for Lake County in Lakeview. Overview of proposed Forest Plan, DEIS and preferred alternative. Outlined major resource issues and how they are addressed in each document.	April:	Monthly meeting between Forest Service Planning personnel and Bend Chamber of Commerce regarding proposed Forest Plan and DEIS, and the potential effects on the local area
April	Presentation to Deschutes County Planning Commission in Bend. Overview of proposed Forest Plan, DEIS and preferred alternative. Outlined major resource issues and how they are addressed in each document	April	Presentations to two separate local women's organizations associated with churches. Overview of proposed Forest Plan and DEIS and preferred alternative. Outlined major resource issues and how they are addressed in each document. Also discussed the Reviewers Guide and encouraged public comment through May 9, 1986. Some concern was expressed by group to have their written comment in by the deadline
April:	Forest Service Planning personnel met in La Pine with key community leaders and local businessmen. Meeting was set up by Kiwanas. Presented overview of proposed Plan, DEIS and proposed alternative, including major issues and how they were addressed. Held question and answer session after the presentation. Considerable interest in the Plan expressed.	5/4/86:	Article in Bend Bulletin "Comment Period Over USFS Plan Ends Friday" Profiled some of the principle reviewers and their views of the Plan and concerns for clearcutting, harvest levels, scenic areas and geothermal activity. Confirmed that the public comment period ends May 9, and that comments would be analyzed for
April	Presentation and overview of Forest Plan, taped earlier for Oregon Public Broadcasting System by Forest Supervisor Dave Mohla and Planning Staff Officer Larry Mullen, aired again on local		

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	the final document. Stated that there would most likely be compromises made before the final Plan is approved		tion of the current harvest levels in the Timber Plan.
5/9/86:	Public comment period on DEIS ends	May:	Field Review with Endangered Species Branch of US Fish and Wildlife Service and Bob Anthony, Cooperative Wildlife Research Unit, Oregon State University, for management within Bald Eagle Management Areas on the Forest. Purpose was to re-affirm that management was still satisfactory for eagles. Official review for bald eagles and peregrine falcons occurred April 7, 1982 prior to release of Forest.
5/15/86:	Article in Bend Bulletin "Comment on Plan Pours In". Described high number of written responses being received by the Forest Service regarding the proposed Forest Plan. Stated that comments were being categorized according to the area of concern. Predicted that Forest Service would most likely take second look at clearcutting, as well as proposed wild and scenic river designations, fisheries habitat on the Deschutes, ponderosa pine harvest level and proposed accelerated harvest of lodgepole pine.	May.	Plan, letter is included in the proposed Plan. Consultation under Section 7 of Endangered Species Act of 1973
5/19/86:	Appeal filed by Northwest Forest Resource Council to request true No Action Alternative. No Action (Current Direction) Alternative in DEIS actually incorporated some mandatory changes to the original Timber Plan that affected current harvest levels. Northwest Forest Resource Council wanted an Alternative that showed a continuation of the current harvest levels in the Timber Plan.	6/1/86:	Monthly meeting between Forest Service Planning personnel and Bend Chamber of Commerce regarding proposed Forest Plan and DEIS, and the potential effects on the local area
		6/20/86:	Article in Bend Bulletin "Forest Service Workers Sifting Through Piles of Plan Comments". Stated approximately 1400 written comments were received and were being categorized and entered into a computer program according to the concern expressed. Explained that comments would be used by those writing the Final Plan, and that comments had already caused the Forest Service to look at certain issues, such as alternatives to clearcutting and wild and scenic river designations.
			Forest Plan Report. Discussed the procedure being used to analyze the public comments received on the Plan and DEIS. Also contained an explanation of the Spotted Owl Supplement

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	currently being done by the Forest Service in Oregon and Washington as a Regional Guide. Stated that the Supplement would provide direction on the management of habitat for the spotted owl, not the management of old-growth timber. The Report also outlined the timeline for the planning process for the Deschutes, and promised to continue to keep the public informed throughout the process. Some topics commented on to date include: Roadless Areas, Winter Recreation, Jobs and Healthy Economy, Visual Quality, Clearcutting and Fisheries		the effects of Management Requirements for wildlife, etc, on timber harvest levels.
May/ June	Summary of all public comments received during the public comment period, along with responses, was posted in the front lobby of the Deschutes National Forest Supervisor's Office. Representatives of the timber industry came in to read comments from environmental agencies and vice versa. Public came in to view the responses, as well as Forest Service personnel.	11/4/86:	Meeting between Deschutes National Forest Planning personnel and Region 6 Regional Forester to discuss progress of planning process since release of Draft Environmental Impact Statement. Discussed public comments and concerns expressed during public comment period. Regional Forester gave go-ahead to re-evaluate issues involving ponderosa pine and lodgepole pine harvest, alternatives to clear-cutting, uneven-aged management, fisheries habitat management, Wild and Scenic River designations and roadless areas.
		11/14/86:	Forest Service News Release "Forest Plan Public Input Results". Summarized the number of public comments received, and outlined areas of agreement and disagreement regarding the proposed Forest Plan based on the public comments.
July.	"Interim Definitions for Old-Growth Douglas-Fir and Mixed-Conifer Forests in the Pacific Northwest and California" published. Designed to guide efforts in land-management planning until more comprehensive definitions based on on-going research can be made.	11/19/86.	Management Information Bulletin. Categorized the comments received according to the various issues, and listed the number of comments by Alternative; also summarized areas of agreement and disagreement
July.	Forest Service Planning personnel met again with Environmental Protection Agency representatives from the Seattle Office to review changes to Standards and Guidelines for water quality issues and riparian environment.	11/25/86	Article in Bend Bulletin "Timber Harvest Levels Questioned-- Deschutes National Forest Plan Elicits 1,611 Letters" Summarized the comments and concerns expressed in the written responses that were received during the comment period for the proposed Forest Plan. Timber harvest levels, roadless areas and recreation-related topics received the most comments; clearcutting, employ-
9/18/86:	Another appeal filed by Northwest Forest Resource Council regarding		

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	ment and Wild and Scenic River designations also received comment. Also contained chart showing breakdown of comments by category		
12/1/86	Forest Plan Report. Outlined the status of forest planning, and a summary of the public responses received, broken down by area of origin, respondent (agency, association, individual, etc), and number of comments by resource/issue. There was also a summary of comments by resource/issue area, including concerns for timber, fish and wildlife, recreation (including roadless areas, wild and scenic rivers and the Metolius River Corridor), visuals, special uses, and energy and minerals (including common mineral materials). The Report also displayed the areas of agreement and disagreement concerning the issues in the proposed Forest Plan.		tion". Outlined new proposal for uneven-aged management as an alternative to clearcutting that had been proposed in the Deschutes National Forest Land Management Plan. Approximately 60% of public comments received for the proposed plan were opposed to clearcutting timber. Based on that public input, Forest silvicultural personnel designed an uneven-aged management plan for timber harvest which has been presented to the Chief of the Forest Service in Washington, DC
		1/27/87.	Meeting between Deschutes National Forest Planning personnel and Regional Forester to check progress of revisions to proposed Forest Plan
		"	Article in Bend Bulletin "Forest Plans May Change". Discussed appeals filed by the Northwest Forest Resources Council stating the proposed Forest Plans released by Region 6 National Forests do not show a true "No Action" alternative that reflects current harvest levels. Forests may need to release a supplement to proposed plans, which will then be subject to another 90-day public comment period. Deschutes NF has requested to be exempted from preparing supplement based on the fact that proposed Forest Plan and DEIS released early last year already contained similar information to that requested by the NFRC
12/12/86	Article in Bend Bulletin "Survey Shows Ponderosa Loss". Outlined the results of the recently completed timber inventory for Deschutes National Forest. Inventory showed there was approximately 39% less ponderosa pine on the Forest than originally thought. Decrease shown across the Forest rather than in one particular. Forest Planner Larry Mullen stated that it would take at least three years to completely analyze the new data, therefore, the Forest Plan would not utilize the new data. Stated that the Forest Plan would be updated at a later date if necessary based on the analysis of the inventory.		
		4/17/87:	Forest Plan Report. Announced the preparation of the Supplement to the Draft Environmental Impact Statement as a result of the appeals filed by the Northwest Forest Resources Council, there will be a 90-day public review period when the supplement is released. Report
	1987		
1/22/87	Article in Bend Bulletin "Clearcutting Option Gains National Atten-		

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then outlined the five major issues that surfaced during the public comment period: alternatives to clearcutting, ponderosa pine harvest levels, management of lodgepole pine and the mountain pine beetle, inclusion of the Deschutes and Metolius Rivers in the National Wild and Scenic River System, and future management of the remaining roadless areas on the Forest. Report stated these issues were discussed with the Regional Forester, and the Forest is going ahead with analysis of the input and possible re-evaluation and response in those five areas. The results of the current Forest Vegetative Inventory were also included (volume of Ponderosa Pine is less than original data for the Forest Plan indicated, and volume of firs, hemlock and lodgepole pine is greater). Stated that current information would be the basis for the Final Forest Plan rather than the original data used for the draft Forest Plan.

4/29/87.

Article in Bend Bulletin "Plans Pose No Threat, New USFS Chief Says". New USFS Chief Dale Robertson addressed timber industry concerns that the timber harvest level would be drastically reduced by the implementation of new Forest Plans. Stated that plans would be implemented over a period of time, and that mills should not expect any significant reduction in the availability of timber.

5/18/87:

Article in Bend Bulletin "Deschutes Plan Enters Final Stage". Quoted Forest Planner Larry Mullen that Forest got the "go-ahead" to begin preparation of Supplements to the Draft Environmental Impact

6/1/87:

Statement in response to the appeals filed by the Northwest Forest Resources Council, a timber industry organization

7/17/87.

Meeting between Deschutes NF Planning personnel and Regional Forester to check progress of revisions to proposed Forest Plan.

Briefing paper concerning Uneven-aged Management prepared by Forest Silviculturist Mike Znerold in response to large number of public comments received during the public comment period for the DEIS. Comments were largely opposed to clearcutting as a timber harvest method, and in favor of an uneven-aged management plan. Paper also included draft for Standards and Guidelines for Timber Management in the Forest Plan, following an uneven-aged management silvicultural system as the preferred timber management system.

7/29/87.

Forest Service Personnel met with Norm Johnson, Governor's Forest Planning Team, and other State representatives to discuss Deschutes National Forest's work on unevenaged management. Findings to date were discussed relative to development of an unevenaged management prescription for ponderosa pine (silvicultural regime) and the estimated effects of implementing this regime on harvest levels.

8/16/87:

Article in Bend Bulletin "Old Growth - USFS Officials Oversee Fate of Majestic Stands". Discussed the issue which has been growing, and which was reflected in much of the public input received for the proposed Forest Plan, of "preserving old growth for old

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	growth's sake" rather than tying it to wildlife or other issues.		tested on selected timber sales
8/17/87:	Article in Bend Bulletin "Two Appeals May Force Delays in Forest Land Planning Process". Discussed the effect of the two appeals filed by the Northwest Forest Resources Council, and the release of a policy statement by the Deputy Assistant Secretary of Agriculture regarding preparation of Supplements to proposed Forest Plans.	12/17/87 &	Development of uneven-aged management guidelines was done in response to public comments received during the forest planning process. Report also included an analysis of the geothermal resource on the Deschutes NF
8/19/87:	Article in Bend Bulletin "Logging Option Gains Attention" Described the uneven-aged management program for timber harvest that has been utilized by Gilchrist Timber Co. for many years. Gilchrist Woods Superintendent Bill Steers led reporters on a tour of portions of Gilchrist lands to give them an on-the-ground look at the results of uneven-aged management. Mike Znerold, Deschutes National Forest Silviculturist, worked out a plan for uneven-aged management for the Deschutes similar to that used by Gilchrist. Article stated that the plan had been presented to the Chief of the Forest Service in Washington, DC, and was waiting approval from the Regional Forester.	12/18/87	Meeting and field trip with Norm Johnson and others from the State. More discussion of State's alternative, unevenaged management for Ponderosa pine, lodgepole pine management, and status of the Plan.
			1988
		1988-1989:	Forest Supervisor Norm Arseneault met several times with the Sisters Forest Planning Committee to continue discussions of management for the Squaw Creek area and visuals in the Metolius Basin area
		1/10/88.	"Greenbook" published for limited review. Was the first draft of a revised Forest Plan containing revisions to Standards and Guidelines resulting from public input received during the comment period. Also contained revisions to original proposed Management Areas
11/20/87	Forest Planners met again with Norm Johnson. Informal information exchange on Deschutes National Forest planning process status. Also discussed preliminary ideas concerning what the State might propose as the Governor's alternative for the proposed Plan.	1/22/88.	Larry Mullen, Forest Planner, Norm Arseneault, Forest Supervisor, and Kendrick Greer, LMP Analyst, met with Norm Johnson and Reis Hoyt in Eugene. Talked more about the Plan and the State's proposal. Also discussed what tradeoff analysis the State needed the Deschutes personnel to do before they could fully develop their proposal or analyze the Plan.
11/25/87:	Forest Plan Report. Initial development of guidelines for uneven-aged management in ponderosa pine and mixed conifer stands has been completed, and will be		

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2/5/88:	Article in Bend Bulletin "Groups At Loggerheads Over Deschutes Plan - Environmentalists, Industry Feud Over Loss of Trees, Jobs". Recap of disagreement between environmentalists and timber industry for timber harvest levels. Predicted that ponderosa harvest levels in the final Forest Plan would be higher than environmentalists would like, and lower than timber industry wants. Stated there would be no departure schedule for timber harvest, instead would manage for a "sustained yield". Decision to manage for sustained yield was based on public comment received after DEIS released which overwhelmingly rejected the departure harvest schedule included in the DEIS. Also, uneven-aged management would replace clearcutting as the preferred silvicultural prescription based on public comments received through the public comment period which ended May 9, 1986.		discuss revisions to the Standards and Guidelines and get input.
		3/1/88.	Bob Rainville and Kendrick Greer met with Oregon Department of Fish & Wildlife to discuss proposed Standards and Guidelines revisions.
		3/5/88:	Norm Arseneault, Forest Supervisor, conducted workshop on Greenbook for Advisory Group composed of members of the timber industry, local business owners, environmental groups and concerned citizens. Purpose was to review the Standards and Guidelines and receive input from the Advisory Group.
		3/7/88	Received comments on first draft of revised Forest Plan (Greenbook) from Advisory Group, Oregon Department of Fish and Wildlife, and Forest Staff Officers
		3/8/88	Comments concerned Standards and Guidelines.
2/17/88:	Article in Sisters Nugget "Forest Plans Unfold". Regional Forester Jim Torrence announced that proposed land and resource management plans have been released for all 19 National Forests in Oregon and Washington. Stated that draft plans released are only part of the picture, and that the draft plans will be refined through public comment and further analysis on a Regional basis.	3/18/88:	Meeting with Norm Johnson, Forest Management Team members and Forest Supervisor. Governor's Forest Planning Team emphasized the need to use the new timber inventory in the Final Plan.
		3/27/88	Article in Bend Bulletin "National Forests Likely to See Clearcutting's End". Recap of public comment regarding clearcutting and explanation of uneven-aged management harvest techniques which would replace clearcutting as preferred management technique for ponderosa pine. Article also touched on mountain pine beetle salvage situation for lodgepole pine and second-growth ponderosa pine. Geothermal energy also continues to be a resource issue, especially in Newberry Crater area.
2/18/88:	Meeting with Don Tryon, local representative for the Oregon Natural Resource Council to discuss plan status and preliminary findings from the latest timber inventory.		
2/23/88	Several members of the Forest Management Team met with Forest Supervisor's Advisory Group to		

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3/30/88:	Article in Sisters Nugget "Senators Sponsor River Protection Bill". Announced Senators Packwood and Hatfield to sponsor Omnibus Oregon Wild and Scenic Rivers Act of 1988 to designate sections of Oregon rivers for Wild and Scenic classification. Senators seeking public input on proposed Act		progress of revisions to proposed Forest Plan. Decision made to incorporate the new vegetative inventory into the preparation of the Final Environmental Impact Statement and Forest Plan
4/12/88:	Additional meeting between planning personnel and Norm Johnson, Governor's Forest Planning Team, to discuss status of Forest Plan and response from State.	7/15/88:	Article in Bend Bulletin "Deschutes Forest to Use Current Timber Inventory" Announced that the Deschutes would use the results of the most recent timber inventory in preparing the final Forest Plan. Inventory showed a 39% decrease in the volume of ponderosa pine on the Forest, and a 2.6% decrease in total volume for all species
4/26/88	Article in The Oregonian "Can Both Old-Growth Trees, Timber Industry Be Saved", written by Harry Lonsdale, Bend Research, Inc. Analysis of the old-growth vs timber situation and personal recommendations for a compromise	7/18/88 -	Forest Service personnel from the Deschutes, Winema and Fremont
		7/20/88	National Forests met with representatives of the timber industry, Oregon Department of Fish and Wildlife, and members of the Klamath Tribes to discuss Standards and Guidelines in the Forest Plan for management of mule deer habitat. Included field trip to examine existing condition of mule deer habitat on the Forests
May:	Forest Supervisor Norm Arseneault met with Deschutes County Commissioners to discuss issues regarding uneven-aged management and timber harvest.		
5/14/88:	Meeting at Bend Research, Inc between Forest Service personnel and representatives from timber industry, environmental groups, and state and local government. Purpose of meeting was to discuss old-growth issues and projections for the Deschutes National Forest	8/3/88:	Article in Bend Bulletin "Owl Plan Would Cut Timber Harvest" Dealt with the effect on timber harvest for the Deschutes National Forest if USFS Chief Dale Robertson were to accept the final supplement to owl management guidelines issued this week. Would reduce the ASQ by approximately 6.9 MMBF or 3.5% from that proposed in the current draft management plan. Currently set aside 1000 acres per nesting pair of owls, final supplement to owl management guidelines would require 1500 acres set aside for each nesting pair. Chief expected to issue decision later in Fall
6/13/88:	Additional meeting between planning personnel and Norm Johnson, Governor's Forest Planning Team, to discuss status of Forest Plan and response from State.		
7/12/88:	Meeting between Deschutes National Forest Planning personnel and Regional Forester to check		

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8/5/88:	Forest Supervisor Norm Arseneault met with Hance Haney, member of Senator Packwood's Staff, to discuss concerns for management of the Metolius Basin area.	9/13/88:	Article in Bend Bulletin "USFS Violations Alleged - Lawyer Paul Dewey Claims the U.S. Forest Service Violated Its Own Plans". Outlined concerns of the Sisters Forest Planning Committee for timber harvest methods used in scenic areas, particularly the area around and on Black Butte and in the Metolius Basin. Methods for harvesting timber in scenic or visual areas have been a continuing concern of the Committee throughout forest planning, and have been the topic of numerous meetings with forest planning personnel
8/9/88:	Forest Service personnel met with Oregon Department of Fish and Wildlife to discuss Standards and Guidelines in the Forest Plan for management of mule deer habitat.		
8/10/88	Article in Sisters Nugget "Owl Habitat Plan". Announced upcoming release of FEIS for Spotted Owl Habitat Management in Oregon and Washington. Stated that alternative selected would be incorporated into Forest Plans for all Forests in PNW Region with spotted owls. Public comment period begins August 12 and ends thirty days later. Article included address for public comments.	9/14/88	Forest Service personnel met again with Maya Schempf to present additional inventory data.
"	Final Supplement to the Spotted Owl Management Final Environmental Impact Statement released.	9/19/88:	Supplement to DEIS published containing No Change Alternative. In response to appeals filed by Northwest Forest Resource Council in 1986.
8/15/88 &	Coordination meeting with Winema and Fremont National Forests that border the Deschutes National Forest. For best management of the contiguous timber stands needed to coordinate proposed management plans.	9/26/88	Forest Plan Report. Contained status report on Forest Plan and recently released supplement to DEIS. Encouraged public comment to the Supplement; public comment period ends 1/6/89. Also contained information on the new forest inventory which was being incorporated into the Forest Plan, the Mountain Pine Beetle, and the Spotted Owl
8/16/88			
8/23/88:	Forest Service personnel met with Maya Schempf and Harry Lonsdale, Bend Research, Inc., to discuss large-diameter trees. Harry was interested in the results of the new timber inventory that showed the number of large trees by diameter present on the Deschutes. Discussions were related to old growth issue, but Harry's real interest was in retaining large diameter trees on the Forest	9/29/88:	Article in Bend Bulletin "Forest Data Available" Announced that supplements to the Draft Environmental Impact Statement, detailing the effects on Forest resources of continuing with current forest management plans, have been released for public review. Stated that public comment on the supplements would be taken until January 6, 1989 for the Deschutes

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	National Forest Supplement to DEIS, and that public comment would be incorporated in the final management plan.		the idea of industry proposing an alternative for consideration in the Final to counter the State's alternative.
9/30/88:	Forest Supervisor Norm Arseneault spoke to Redmond Chamber of Commerce regarding major issues in the proposed Forest Plan.	12/9/88:	Record of Decision released for the Final Supplement for the Spotted Owl Management Final Environmental Impact Statement for Oregon and Washington Recommendations for size of Spotted Owl Habitat Areas were incorporated into the Forest Plan Deschutes National Forest to set aside 1500 acres for each of 14 nesting pairs of owls
10/10/88:	Pacific Northwest Region, Old Growth Briefing Paper prepared by Jeff Blackwood, Regional Planner. Summarized the "old growth" situation in Region 6. Contained definitions for old-growth in Pacific North- west proposed by R6 Regional Guide, Society of American Foresters, the Interagency Old-growth Development Committee, and the Wilderness Society, with a comparison table Also outlined Region 6 Approach to managing Old Growth through Forest Plans.	12/12/88:	Article in Bend Bulletin "Final Owl Plan Cuts Timber Harvest". Stated that result of the decision for the Spotted Owl FEIS would be approximately 4% decrease in the Allowable Sale Quantity for the Deschutes National Forest. Adjustments were made to the Forest Plan to allow 1500 acres to be set aside for each of 14 pairs of nesting owls on the Forest.
10/14/88:	Forest Supervisor Norm Arseneault met with retirees to discuss Forest Planning issues.		
10/19/88:	Omnibus Oregon Wild and Scenic Rivers Act of 1988. Added several rivers and creeks on the Deschutes to the National Wild and Scenic Rivers System' segments of Metolius, Deschutes and Little Deschutes Rivers, and Big Marsh, Crescent and Squaw Creeks. Changed original Management Areas for Wild and Scenic River Areas to include all the rivers and creeks designated by the Act. Standards and guidelines for managing Wild and Scenic Rivers Areas were incorporated into the Forest Plan	12/28/88:	Article in Redmond Spokesman "Governor Takes Note of Forest Letters" Stated that letters received by Governor Goldschmidt regarding proposed management of areas on the Deschutes National Forest were being reviewed by the Governor's Forest Planning Team' Norm Johnson, an Oregon State University Forestry Professor; Gail Achterman, the Governor's assistant for natural resources, and Reis Hoyt, an environmental analyst The Planning Team is preparing an alternative for the Deschutes National Forest Land Management Plan Letters were in response to flyers sent out by the Sisters Forest Planning Committee to local residents calling for protection of old growth trees and
11/23/88.	Forest Service personnel met with Wayne Ludeman and other timber industry representatives to discuss new inventory, plan status, and		

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	scenic areas such as Black Butte and the Metolius River.	3/26/89.	Article in Bend Bulletin "Cut-VS.-Save Debate Tugging at Forest Plans" Continuing dialogue between timber industry interests and environmentalists regarding appropriate amounts of timber offered for harvest. Forest Plans for the Deschutes and Ochoco have seen significant changes in proposed amount of allowable sale quantity (ASQ) since draft plans were released. Some changes due to public comment received, Deschutes will be using results from new timber inventory into final plan. Inventory showed a 39% drop in ponderosa pine volume from previous inventory. Other resources that affect timber supplies include: wildlife, roadless areas, and old growth
	1989		
January:	Forest Supervisor Norm Arseneault met with Advisory Group to discuss issues regarding Deschutes National Forest position on old-growth and approach to management.		
1/6/89:	Public comment period ends for Supplement to DEIS.		
1/26/89.	Forest Service planning personnel met again with Maya Schempf concerning management and retention of large-diameter trees.		
1/31/89:	Kendrick Greer, LMP Analyst, met with Paul Dewey to discuss doing an old growth inventory cooperatively.	4/28/89:	Forest Supervisor Norm Arseneault met with Bill Marlett, Ancient Forest Alliance and Paul Dewey, Sisters Forest Planning Committee to discuss old-growth inventories on the forest.
"	Forest Service personnel met with representatives of the timber industry, Oregon Department of Fish and Wildlife and members of the Klamath Tribes to discuss Standards and Guidelines in the Forest Plan for management of mule deer habitat.	5/9/89:	Overview meeting with the State of Oregon regarding Deschutes Forest Plan. Attendees: Norm Johnson, Governor's Forest Planning Team; Norm Arseneault, Deschutes NF Supervisor; Neil Hunsaker, Scott Beyer and Kendrick Greer, Deschutes NF LMP staff, and Sarah Crim and Dick Phillips from the Forest Service Regional Office for Region 6. Focused on intended changes to Forplan modeling and analysis for the Plan; examined Forplan model itself in terms of land stratification, allocation and harvest scheduling choices, and outputs represented. Norm John talked about the State's proposal for the Deschutes National Forest based on earlier work by the Governor's Forest Planning Team.
February.	Forest Supervisor Norm Arseneault met again with Advisory Group to discuss management of old-growth and Standards and Guidelines.		
2/17/89	Forest Service planning personnel met with Norm Johnson, Governor's Forest Planning Team for status update on yield table work.		
3/10/89:	Forest Service personnel met again with Wayne Ludeman and other representatives of the timber industry to update them on progress and results of new timber yield tables		

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5/11/89	Meeting with Oregon State Task Force on National Forest Planning to discuss Deschutes Plan. State Agency personnel: Ken Johnson, State Public Affairs Officer; Jim Mair and Bob Brown, State Department of Forestry, Ann Hanus, State Economist, Darryl Gowan, Staff Biologist and State Forest Planning Coordinator, and Don Eixenberger, Research Analyst, State Park and Recreation. Forest Service personnel: Norm Arseneault, Forest Supervisor, Bob Rainville, Range, Wildlife and Watershed Staff Officer, Bernie Smith, Recreation Staff Officer; Don Pederson, Timber Staff Officer; Steve Galliano, Landscape Architect, Ed Styskel, Wildlife Biologist; Neil Hunsaker, Kendrick Greer, Scott Beyer, Kim Boddie, Jack Berry, and Rich Thomas, from Land Management Planning staff, Carolyn Wisdom, Environmental Coordinator, Andrea Carpenter, Planning Assistant, Sisters District; and Dave Craig, Planner, Region 6 Regional Office. Focused on the resource issues and analysis process being addressed between the Draft and Final Forest Plan.		Standards and Guidelines in the Forest Plan for management of mule deer habitat.
		8/15/89 &	Legislative Tour of the Metolius Basin Area conducted by Forest
		8/16/89	Service personnel. Members of Congressman Bob Smith's and Senator Packwood's Staff attended. Issues included Wild and Scenic River Areas, Scenic Views and the Metolius Basin Area as related to the Forest Plan and management Standards and Guidelines.
		8/18/89	Forest Supervisor Norm Arseneault met with Norm Johnson from the Governor's Planning Staff and Paul Dewey to discuss major issues of the Forest Plan and Standards and Guidelines.
		8/22/89	Save the Metolius, local conservation group, proposed establishment of a National Conservation Area (NCA) in Metolius Basin Area. Would include approximately 154,000 acres of the Sisters Ranger District. Proposed special timber harvest methods (Metolius-grade lumber to be sold to Central Oregon mills only), some restrictions on recreation development, and improvements to visual and wildlife management standards.
5/15/89	Meeting between Forest Service planning personnel and Harry Lonsdale (Ancient Forest Alliance) to talk more about maintaining more large-diameter trees.		
6/17/89	Forest Supervisor Norm Arseneault met with Associated Oregon Loggers. Discussed issues of the Forest Plan relating to timber harvest, Wild and Scenic Rivers and Northern Spotted Owl habitat.	8/30/89	Article in Bend Bulletin "Group Proposed Conservation Plan" Described proposed Metolius National Conservation Area outlined by Save the Metolius Committee. Article included map of proposed NCA, as well as descriptions of the three proposed "stewardship zones" which would emphasize recreation, sustainable timber harvesting and wildlife and primitive recreation.
6/23/89	Forest Service personnel met with representatives of the timber industry, Oregon Department of Fish and Wildlife, and members of the Klamath Tribes to discuss		

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9/5/89:	Article in Bend Bulletin "Industry Wary of Metolius Proposal" Outlined reaction of timber industry to proposed Metolius National Conservation Area. Concerned about the further reduction to the ASQ for the Deschutes, and the inclusion of one of the largest remaining stands of valuable old-growth ponderosa pine in the region.			Products, Ochoco Lumber and Gilchrist Timber). Discussed timber industry's concept of their proposed Central Oregon Alternative, designed to maintain current timber harvest levels while looking at each management area and providing for other resource activities Forest Service agreed to provide group with chart comparing acres by Management Area between 1986 DEIS and current Areas proposed, and to keep them informed as to status of the proposed Metolius National Conservation Area
9/6/89.	Article in Sisters Nugget describing proposed Metolius National Conservation Area outlined by Save the Metolius Committee			
9/14/89.	Forest Strategy Group established to deal with Metolius National Conservation Area proposal.	10/19/89.		Chief of Forest Service Dale Robertson announced policy on old- growth forests Policy recognized significant values associated with old-growth forests, and made recommendations on managing old- growth forests, and for increasing research efforts directed at old- growth ecosystems. Forest Planning adjusted for less fragmentation of old-growth designated areas.
9/15/89:	Meeting between Forest Service personnel and Save the Metolius Committee Purpose of meeting was to discuss ways to incorporate Metolius Conservation Area proposal into Deschutes Forest Planning effort.			
9/24/89.	Norm Arseneault, Forest Supervisor; Len Farr, Sisters District Ranger, and Greg McClarren, Public Affairs Officer met with Toni Foster, Byron Beach and Steve Prince from the Save the Metolius Committee regarding proposed Metolius NCA. Initial meeting was a "get acquainted" meeting to open communications and understanding. Forest Service agreed to work with Committee to clarify concerns, to provide information regarding allocations, Standards and Guidelines for the Metolius Area, and to work towards some sort of resolution.	10/22/89		Norm Arseneault, Forest Supervisor; Len Farr, Sisters District Ranger, Andrea Carpenter, Sisters RD Planner; and Greg McClarren, Public Affairs Officer met with Toni Foster, Byron Beach and Steve Prince from the Save the Metolius Committee regarding proposed Metolius NCA. Discussed Committee's response to Forest Service questions regarding proposal Committee presented silvicultural proposal that had been prepared by Mark Wigg, Consulting Forester Cordial meeting, lots of discussion, agreement to continue to work together.
10/4/89.	Meeting between Forest Service Timber and Planning personnel, Northwest Forestry Association and timber industry (DAW Forest Products, Prineville Sawmill, Pine	11/6/89.		Regional Forester issued similar direction to that issued by Chief

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	for old-growth management in project activities.		Arseneault asked the Committee to include all interested parties in any future tours.
11/13/89:	Telephone conversation between Scott Beyer, Deschutes NF LMP Analyst and Mark Wigg, Consulting Forester for Save the Metolius Committee to clarify specific items needed to model alternative cutting proposals described by Committee. Agreed that proposals would be modeled using the Stand Prognosis Model and reviewed with Bob Brown, State of Oregon, and Mark Wigg at November 21, 1989 meeting	11/21/89:	Forest Service personnel met with Bob Brown, State of Oregon and Mark Wigg, Consulting Forester for Save the Metolius Committee Discussed Wigg's recommendations for alternative cutting proposals for stands commonly found in the Metolius Basin. Included old-growth Ponderosa pine stands, old-growth mixed conifer stands, two- storied stands, and pine or mixed conifer thickets
**	Forest Service News Release outlined a five point policy for the Metolius River Area. Addressed recreation development along the river area, Wild and Scenic River planning, and the proposed Metolius National Conservation Area. Stated detailed consideration of the Metolius NCA proposal would occur as part of the soon-to-be completed Forest Plan, using state-of-the-art computer modeling techniques and the latest timber inventory information	12/16/89:	Norm Arseneault, Forest Supervisor; Len Farr, Sisters District Ranger, and Greg McClarren, Public Affairs Officer met with Save the Metolius Committee regarding proposed Metolius NCA Presented data regarding acres and timber types within the proposed boundary for NCA Also showed an overlay of proposed Management Areas in the Forest Plan included in the proposed Metolius NCA Agreed to look at specific Standards and Guidelines for all zones at next meeting
11/19/89:	Letter mailed to Mark Wigg containing information requested earlier regarding Acreage by Stand Type and Volume Estimates for Metolius Area.		1990
11/20/89.	Save the Metolius Committee took the Sisters District Management Assistants, members of the Forest Supervisor's Office Staff, and several representatives of the State on a tour of the Metolius Area Visited several key sites that Committee was interested in for NCA Committee has been conducting this same tour for many other people, including the media, congressional, and industry representatives. Forest Supervisor Norm	1/29/90:	Andrea Carpenter, Sisters RD Planner; Wayne Ludeman, Northwest Forestry Association, Scott Beyer, Deschutes NF LMP Analyst; Mark Wigg, Consulting Forester for Save the Metolius Committee (via FAX), and Dave Stere, Oregon Department of Forestry (FAX) met regarding the proposed Metolius Conservation Area Purpose of meeting was to review silvicultural management scenarios proposed by Mark Wigg, as well as standards and guidelines proposed for Metolius Area Also modeled and compared for uneven-aged man-

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	agement and management for scenic values.		ment Area, and two special interest areas
""	Telephone conversation between Scott Beyer, Deschutes NF LMP Analyst and Mark Wigg, Consulting Forester for Save the Metolius Committee. Mark agreed to provide estimates of percentage of area harvested in first decade of planning period and beyond as result of implementing proposed Standards and Guidelines for Metolius. Estimates would be used in future analysis to clarify proposed management for Metolius	March -	Decrease General Forest Allocation by 13,000 acres Decrease ASQ by approximately 3-5 MMBF in area. Forest Supervisor Norm Arseneault designated a member of Old Growth
		April:	Forest Education Steering Committee, organized by Deschutes County Extension Agency Agents for Oregon State University. Purpose of the Committee was to deal with issues regarding management of old-growth timber. Four meetings scheduled during March and April
2/5/90.	Meeting between Forest Service personnel and representatives of timber industry (Northwest Forestry Association) and environmental groups (Oregon Natural Resource Council, Ancient Forest Alliance) concerning old-growth issues on the Deschutes National Forest. Presentation of the old-growth situation from various perspectives by ONRC, Ancient Forest Alliance and Northwest Forestry Association. Old Growth Committee was designated and charged to examine current direction, develop alternatives to protect old-growth, and make recommendations to Management Team in integrate into Forest Plan.	3/12/90:	Article in Bulletin discussed lower harvest levels under new Forest Plan
		3/13/90:	Save the Metolius Committee submitted further refinements to initial proposal which included some revisions to their original map. Also contained proposed Standards and Guidelines for proposed allocation zones. Original Recreation Zone was dropped and replaced with two new zones: Metolius Zone and Highway 20 Zone. Standards and Guidelines were included for the two new zones and the three other allocations. Sustainable Forest Zone, Wildlife-Primitive, and
2/11/90:	Meeting with Save the Metolius Committee, Forest Service and timber industry. Initiated process of collaborative negotiation. Forest Service proposed the following: Establishment of 53,000 acres of Metolius Heritage Area--proposed area would encompass several Draft Forest Plan management areas, such as visuals, RNA, developed recreation, dispersed recreation, Bald Eagle Manage-		Geothermal, as well as identification of special management areas separate from their surrounding zones. Rejected the Forest Service compromise proposal for smaller Metolius Heritage Area. Committee still included all of the originally proposed area.

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3/13/90:	Long-range Regional Planning Task Force created in connection with Central Oregon Economic Development Council; Forest Supervisor Norm Arseneault designated member of Task Force. Meeting held concerning issues of Forest Plan relating directly to economy of local area.	3/27/90	Forest Supervisor Norm Arseneault and Forest Planner Neil Hunsaker met with Norm Johnson, Reis Hoyt and Gail Achterman from the Governor's office to discuss changes in Management Areas in the Forest Plan between the Draft Environmental Impact Statement and the Final Environmental Impact Statement
3/20/90:	Forest Service News Release "Timber Management Report Highlights Change". Contained information from the Deschutes National Forest annual report on timber management. Changes include. increased use of uneven-aged management, decrease in clearcutting, aggressive thinning for beetle prevention, and heightened awareness of need to protect old-growth tree groves while providing raw materials for forest products manufacturing. Many changes were direct result of public comments received for the proposed Forest Plan since its release in 1986	3/28/90:	Forest Supervisor Norm Arseneault made presentation to mixed audience of timber industry representatives and members of environmental groups regarding major issues of proposed Forest Plan
"	Forest Supervisor Norm Arseneault interviewed by television news team from Channel 21 regarding Forest Plan and lower harvest levels	4/2/90	Long-range Regional Planning Task Force meeting. Further discussion of issues of Forest Plan relating to economic development in Central Oregon
"	Meeting between timber industry representatives and Forest Service regarding upcoming Forest Plan and timber harvest levels as affected by Old Growth Management Areas, Spotted Owl Habitat needs, and other resource requirements	4/4/90:	InterAgency Scientific Committee's Report on the Spotted Owl released During course of question and answer session, Chief of the Forest Service Dale Robertson was asked what effect the spotted owl report would have on completion of Forest Plans in Region 6 Stated would proceed with plan completion based on language in Section 318 which placed expectation on Forest Service to complete Forest Plans for Region 6 by September 30, 1990 Stated would need to provide management direction for other resources in addition to spotted owl Forest Plans, including Deschutes Forest Plan, contain set-aside acres for spotted owl which correspond to decision of December 1988 that amended Regional Guide for northern spotted owls
3/23/90:	Presentation of Forest Plan and proposed Final Environmental Impact Statement with preferred alternative to Regional Forester.		

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Alternatives, Data Analysis, & Planning Process

Response to Public Comments on Draft Forest Plan and DEIS

Reaction by the public to the Draft Environmental Impact Statement and Forest Plan and responses to this comment by the Forest Service is documented in this Appendix. Ways in which both documents were changed as a result of this comment are described.

Appendix I supplements Appendix A, which indicates how the issues, concerns, and opportunities addressed by the Forest Plan were determined and provides an account of public involvement prior to and after publication of the 1986 Draft Environmental Impact Statement.

Deschutes NF planning was complicated by a decision to recall a 1982 version of the Draft Environmental Impact Statement and Forest Plan. This was occasioned by the promulgation of new directions for Forest Planning from both the national and regional office level. Responses to the 1982 DEIS were systematically analyzed and resulted in changes that were included in the 1986 Drafts.

A similar evaluation of responses to the 1986 version of the DEIS and Proposed Forest Plan was also conducted. The number, source, and nature of the more than 8,000 comments (1,611 letters) is given after the section which summarizes the 1982 DEIS.

According to Forest Service policy, "substantive" comment is that which "provides factual information, professional opinion, or informed judgment germane to the action being proposed," (Forest Service Handbook 1909.15). Comments which questioned the sufficiency of the 1986 DEIS, proposed Forest Plan, and planning process required a published response by the Forest Service, and are included below. Statements of preference, value judgments, and opinions about the outcome of the process, e.g., opposition to the Preferred Alternative, are also important. They are summarized and responded to after the following substantive section and were used by the Regional Forester in selecting the alternative which will direct the Forest for the next 10 to 15 years. The selection is documented in the Record of Decision.

Following the comment/opinion section are the comment and responses to the 1988 DEIS Supplement. Comments include a section on those received from industry and from individuals.

Alternatives

COMMENT: "We are not lawyers," declared one reviewer, who asked for simplified documents and better indexing. This respondent also objected to the presentation of a preferred alternative. "Let the public pick the preferred plan, without coercion or influence!"

RESPONSE: Legal requirements are one of the reasons for the complexity of these documents but an effort was made to present the material more clearly. Indexes in the Final Environmental Impact Statement and Forest Plan include more entries. A glossary of terms is also included.

One of the legal requirements, from the National Forest Management Act, makes the Regional Forester responsible for selecting a preferred alternative.

COMMENT: The No-Action Alternative in the DEIS does not meet the requirements of the National Environmental Policy Act, according to a respondent. "New yield tables, new land suitability, and new minimum management requirements are elements of the new plan and should be excluded."

RESPONSE: A Supplement to the DEIS, which included a No-Change Alternative, was made available for public review for 90 days ending January 6, 1989. This alternative is also presented in the FEIS and is discussed in Chapters 2 and 4 of the FEIS.

COMMENT: Three reviewers asked for the evaluation of one or more alternatives between the preferred Alternative E and Alternative C, which calls for the highest level of timber harvest.

One declared, "All the alternatives except C will result in a negative effect the number of jobs....Why

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are there no departure alternatives which result in an increase in the number of jobs beside Alternative C, which projects an increase of over 500? To some, the high commodity alternative will no doubt be considered a "straw-man" and not a viable alternative. If that is the case the Deschutes plan would present no viable alternative that results in a job increase, when in fact the potential remains to do so "

Alternatives producing 100 to 400 jobs with corresponding increases in personal income and payments to counties could be developed and "no major effects on wildlife habitat conditions or production of other resource values would be expected to occur," this reviewer asserted, adding: "By so doing, the Forest will more completely meet the legal requirement for a full range of alternatives."

Another respondent said "there is a large area between Alternative E and C worth of intense exploration in search of economic opportunities... without making substantial environmental compromises "

In echoing this proposal, a third reviewer suggested "changing the balance of programmed harvest among ponderosa pine and other available species."

RESPONSE: The Forest Plan provides a system of management for all multiple uses of a unit of the national forest system. Alternatives prepared for consideration as a Forest Plan are to provide for a wide range of reasonable management scenarios for the various uses of the forest [36 CFR 219.12(f)] Therefore, alternatives cannot be completely specified by a single output. Displays of estimated output levels for the various resources under the alternatives are presented to assist the public to better understand the possible consequences of implementing a particular alternative. Output levels themselves are not subject to the NEPA requirements for a reasonable range of alternatives.

COMMENT: Another reviewer had a similar concern: "We are surprised at the lack of variability among the alternatives " The 23 percent difference

between alternatives in acres available for programmed harvest and 31 percent difference in acres which will be regeneration harvest/overwood removal harvested was questioned

RESPONSE: Given the amount of land committed to other management emphasis, the differences in timber management between alternatives are quite significant

COMMENT: A reviewer suggested this allocation of Management Areas: No.1--15,800 acres, No 2--8,000, No 3--22,000, No.4--16,500, No 5--31,300, No 6--18,250, No 7-- 95,000, No 8--657,000, No.9--320,000, No.10--3,536, No 11--28,000, No 12--135,000, No 13--0(nordic skiing areas to be included in No 9), No.14--42,656, No.15--53,072, No 16--10,042. Total = 1,620,412 acres.

RESPONSE: Such an alternative would essentially shift 200,000 acres to Scenic Views management from General Forest. The resulting level of goods and services would be only a few percent different than Alternative A. Such an alternative was not considered in detail in the FEIS because it would fall well within the range of alternatives which were explored. The current version of preferred Alternative E shows a significant increase in acres managed for scenic quality.

Analysis of Data

COMMENT: A respondent declared "It is not clear to us that survival rates in the plantations will be anywhere near full stocking rates. Your constraints to the FORPLAN model are helpful, but you should have a mortality factor, in addition to a defect factor

RESPONSE: The average survival rate in plantations on the Forest is approximately 90 percent. If mortality is significant, plantations are replanted. (See Timber Management standards/guidelines in Chapter 4 of the Forest Plan.)

COMMENT: A reviewer, referring to an Appendix B table which shows the benchmark analysis

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outputs, said it "seems to be close to what the local timber industry wants right now." The Forest Service "should make it clear what the results of industry requests for increases in Ponderosa right now will be down the road."

RESPONSE: The FORPLAN benchmark analysis was not performed to show "what the local timber industry wants right now". It is required by law to define the outside limits of Forest Planning. The effects of various levels of timber harvest are disclosed in Chapter IV of the FEIS.

COMMENT: "Conservation of energy, capital, and labor should be assessed for each allocation," a reviewer said, and suggested the application of a conservation standard or guideline.

RESPONSE: The energy requirements and outputs for the preferred alternative are given in Chapter 4 of the Forest Plan. Chapter 2 of the FEIS compares the difference in total costs and values for each alternative

Forest Inventory

COMMENT. Most comments focused on the need to incorporate the new Forest inventory in the Final Forest Plan. Some people also requested a map showing species and stocking.

RESPONSE: The new inventory has been incorporated into the FEIS and Final Forest Plan. Inventory information is also available at the Forest Supervisor's Office in Bend.

COMMENT: Every effort should be made to conduct a thorough inventory of timber available by species and maturity on both public and private lands.

RESPONSE: The necessity for thorough timber inventories is known. The Forest Service works with other State/Federal agencies and private industry to maintain inventory data, including species and age, on public and private lands. Emphasis on inventories of timber resources will remain high as the Forest Plan is implemented

Monitoring processes will keep data and information more current than in the past

COMMENT: "Inventory should count 72 MMBF of turnback."

RESPONSE: The timber inventory conducted in 1985 measured all existing timber conditions and included timber turned back through the Timber Sale Buyback Program.

Suitability

COMMENT: Several reviewers questioned the DEIS treatment of lands considered unsuitable for timber production. One asked for assumptions used to determine the classification and verification of field inspections. Another declared the classification to be a major federal action requiring public review

RESPONSE: The assumptions used to determine suitability are identified with Figure 3-7 of the FEIS and discussed at some length in Appendix B. The determination of lands unsuitable because of regeneration difficulty was based upon the Forest's Soil Resource Inventory mapping, plant community ("ecoclass") mapping, and a historical analysis of artificial and natural regeneration success. Detailed maps of Forest land classified as unsuitable are available at District Ranger and the Forest Supervisor's Offices

COMMENT: Another reviewer noted that the Draft Pacific Northwest Region Plan considers land which annually produces less than 20 cubic feet per acre unsuitable for timber harvest. Despite this, he said, 139,800 of 164,100 acres of land in this category on the Deschutes NF are classified as suitable. "Plant Associations of the Central Oregon Pumice Zone" by Leonard Volland was cited as evidence that reforestation on many plant associations in this category is very difficult.

This respondent also cited a reference to 20,000 acres requiring gopher control to achieve regeneration. In another section of Appendix B, he said,

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the cost of gopher control is considered too expensive yet the 20,000 acres is still considered suitable. "Also on page 70 (Appendix B)," the reviewer said, "is the admission that 47,000 acres, which are too rocky to plant and require 15 years to regenerate naturally, will be considered suitable for harvest. On page 168 of the Appendix the Forest Service admits to claiming as suitable for timber harvest mountain hemlock stands which are very slow to regenerate naturally (20 year estimated regeneration period) and too expensive to regenerate artificially.

"The Forest Service claims that the National Forest Management Act has a big loophole. They claim as suitable for timber harvest thousands of acres which they assure us will NOT be regenerated within five years. They say this is allowed because by spending enough money and planting these areas repeatedly they could eventually achieve adequate stocking. Was this the intent of NFMA?"

RESPONSE. The Regional Office directed the Forest to change the criteria for determining suitability from 20 cubic feet/acre/year to 10 percent crown cover. The description of timber stratification in the FEIS has been clarified. The land cited in the comment is "tentatively" suitable. The amount of land actually available for timber harvest varies between alternatives according to management emphasis and investments. The National Forest Management Act says timber can be harvested when "there is assurance that such lands can be adequately restocked within five years after harvest." This is not a loophole. Areas which are difficult to reforest are scheduled for harvest in alternatives which emphasize timber production and additional costs for reforestation must be paid.

COMMENT. The discussion of regeneration on rocky soils is "not understandable," according to a reviewer. "Are you saying that it is OK to leave them in the timber base even though 15 years may be necessary to regenerate? And what data do you have to suggest that full stocking should be used to calculate yields from the lands? Also, it is not clear exactly why slope is deleted as an analysis factor."

RESPONSE: Regulations for the implementation of the National Forest Management Act address the five year regeneration period for shelterwood and seed tree cutting units. It is permissible to delay the beginning of the five year period until the trees which have been left are removed. This could be 20 or 30 years after the initial tree removal. The Forest and Regional Office, however, had decided that land should not be considered suitable for timber production if it is not capable of being naturally regenerated 15 years after the initial entry.

Full stocking is not a necessary variable in yield calculations.

Slope was deleted as an analysis factor because a relatively small amount of land within the Deschutes NF timber base is on sloping terrain.

COMMENT. References to the extent of gopher problems on the Forest were considered inconsistent and confusing by one reader. "How many acres are going to be affected by gophers under the alternatives? How many acres require control measures? How many acres are unsuitable under each alternative as a result of a gopher problem?"

RESPONSE. Twenty-thousand acres of suitable land have gopher problems which, while requiring extra expenditures, can still be managed for timber production. On 934 acres, the gopher problem is so extreme that they were removed from the timber base. This situation is the same for all Alternatives.

Yield Tables

COMMENT. Criticisms of timber yield tables ranged from too much personal judgement in adjusting yields to inadequate testing of growth simulation models. The Oregon Department of Forestry, after conducting independent analysis using the Prognosis model, declared that the DEIS underestimated forest yields by 13 to 15 percent. The Forest's treatment of timber stratification, the stand density index and growth basal area assumptions, and fertilization and genetics were criticized.

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RESPONSE: One of the changes made between the DEIS and FEIS has been to incorporate the latest timber resource inventory into the Forest Plan analysis. Prognosis was used to develop new empirical and managed timber yield tables. This is the best available timber data and state of the art modeling for predicting future yields.

The Forest used the South Central Oregon/Northeastern California (SORNEC) version of Prognosis. This version of the model was further calibrated with published growth data to approximate timber yield on the Deschutes NF. The reliability of the new yield tables was tested with assistance from scientists from the Bend Silviculture Laboratory and biometricians from the Washington Office of the U.S. Forest Service. Results are repeatable given the same data set, calibration values, and modeling of standards/guidelines.

COMMENT: Some respondents stated that the stratification of the managed yield tables was flawed and should have been based on the stratification used in the existing Forest inventory.

RESPONSE: The stratification used in the existing inventory was based on species mix and standing inventory. Stratification of the managed yield tables was based on the productivity potential of the land. Plant associations were used as a measure of this productivity potential.

COMMENT: The Deschutes used Fred Hall's Growth Basal Area (GBA) model to predict yields from the stratified timber classes. The GBA model included a mortality function based on stand density index. The plan says that full stocking was assumed (Appendix B, page 168). However, the GBA model and stand density index inherently include yield reductions for less than full stocking. In many cases, the reduction in yield is assumed to be directly proportional to the decrease in stand density. Also, the GBA method assumes "stockability limits" of a particular site prevent attainment of full stocking.

This approach fails to recognize that productivity of the stand remains stable over a wide range of stocking (Langsaeter). Therefore, the Deschutes

appears to be limiting the timber output from its yield tables significantly more than justified. The yield reduction is compounded by the assumptions regarding wildlife trees and nonstockable openings. These assumptions effectively double count yield reductions.

First, volume growth of wildlife trees is deleted from the yields because the yield tables supposedly assume full site occupancy. A dead tree reduces site occupancy and hence the Deschutes lowers the yields. However, not every established seedling reaches rotation age. As the stand grows trees will die and become snags through the normal course of a rotation. The full occupancy yield tables already account for the yield loss from natural mortality. These trees are available for wildlife and there is no need to reduce yields a second time. This is especially true if the Deschutes assumes that commercial thinning will not capture 100 percent of the mortality.

Second, the Deschutes duplicates yield reductions in another way when it reduces yields 5 percent for nonstockable openings. The ecoclass-community type-GBA approach discussed earlier, already reflects reductions in yields for sites that have natural limits on full stocking capacity. The explicit 5 percent reduction duplicates the existing implicit growth limits incorporated in the yield tables.

RESPONSE: One of the goals of our managed forests is to maintain a healthy and vigorous set of stands. An outcome of this is the reduction of naturally occurring mortality through stocking level control. The expected naturally occurring mortality may not provide the amount and size distribution of snags needed to provide wildlife habitat at the recommended levels. The reductions in yields reflect that level of volume that will not be harvested in order to provide habitat.

The 5 percent reduction in yields for nonstockable openings reflects that portion of the land base that will be used for landings and skid trails occurring from forest management. This reduction is necessitated as landings and skid trails will be reused. The yield loss that occurs is additive to that loss which takes place under natural conditions.

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COMMENT: A different concern about the 5 percent reduction was expressed by another respondent "The Forest does not follow the advice of the Regional Office and reduce yields by 15 to 20 percent for roads, landings, and other unmapped unstockable areas."

RESPONSE: The 5 percent reduction was for landings and other unmapped unstockable areas. Additional reductions are made for items such as; rocky ground and roads (See Appendix B of the EIS for a discussion of this situation)

COMMENT: The same reviewer also declared that the full stocking assumption was unrealistic. This, he said, "is made even more indefensible by the assumption that most of the ponderosa sites will be fully stocked even though they will be planted to wide spacings to avoid precommercial thinning

RESPONSE. Regional and local stocking guides will be utilized to assess adequate stocking on all regeneration units prior to certifying them as being satisfactorily reforested. If a unit is not certified further efforts to attain reforestation will occur.

COMMENT Some respondents challenged the use of the Growth Basal Area (GBA) model to calculate managed yield tables. The concern was that this technique produced lower yields.

RESPONSE. It is recognized that the GBA model is not well understood. However, in 1983 it was the Regionally approved method for development of managed yield tables on the east side of the Cascades. The assumptions used in modeling acceptable rates of stand diameter growth account for reduction in yield rather than the GBA model itself. On the Deschutes NF we assumed a rapid rate of tree diameter growth to reduce the risk of mountain pine beetle (MPB) mortality. This strategy was based on recommendations from Forest Pest Management. The net result is a reduction in stocking levels and total yield. Although increased stocking could potentially produce greater yield, it would place the stands at greater risk from the pine beetle. Based on our inability to control an epidemic, a management decision was made to

accept slightly lower yields. As new models are developed the Forest will test the existing assumptions about the growth and yield of managed stands.

COMMENT A reviewer said 1983 managed yield tables were flawed because they were "based upon forest-wide productivity averages" and consequently, the "new yield tables (were) stratified to groups across the forest. Essentially, the Deschutes has post-stratified their forest after the original inventory was complete."

RESPONSE: In the FEIS, a more current timber resource inventory has been utilized, without post-stratification of the inventory plots as was done in the DEIS analysis.

COMMENT. "The July 15, 1985, Regional direction to the Deschutes NF requires the forest to provide a table comparing the assumptions used in development of the Forest Plan for Oregon with the assumptions used to formulate the DEIS alternative that most closely meets the FPFO objectives (Alternative C). The Department of Forestry was disappointed to find this valuable information has been omitted from the document. To fulfill the NFMA requirements for coordination with state government, this table should be added to the final environmental impact statement

RESPONSE. This change has been made and the corrected table appears in Chapter 2 of the FEIS.

COMMENT: "The Deschutes managed yield tables understate attainable timber yields by more than 10 percent," said one respondent, adding "This statement is based on research and publications from USFS Bend Silviculture Laboratory, Oregon Department of Forestry, more than 1,500 permanent growth plots on Gilchrist Timber Company and Diamond International lands, and yield tables on the Ochoco and Winema National Forests, I believe this underestimation results in inappropriate land allocations, timber management intensities, and timber harvest levels."

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RESPONSE: The managed timber yield tables have been revised in response to the availability of more current information and new modeling techniques.

COMMENT: "Why is there virtually no sales program in mountain hemlock but the species is included in the yield tables," a respondent inquired.

RESPONSE. Empirical and managed yield tables are prepared for all working groups. When a stand is harvested it is assumed to grow according to the managed yield table. If it is not, it continues to grow according to the empirical yield table. Inclusion in the empirical yield tables has nothing to do with when, or if, a stand is scheduled for harvest. Future harvest may be possible if favorable economics develop.

COMMENT. Regarding the yield tables, a reviewer said the projected growth is contingent on numerous thinning in all but the mountain hemlock working group. "In a world of shrinking budgets, is it reasonable to assume that money will be available for such intensive management?" This reader also asserted that current commercial thinnings are not being purchased. "You should recalculate the yield tables assuming that only about half of the projected thinnings may occur."

RESPONSE: The Forest is legally required to base timber yields on the utilization of economically prudent silvicultural practices, including thinning. Most commercial thinnings have been purchased on this Forest. When they are not and the treatment is considered necessary, thinning is accomplished with service contracts, which can include salvage rights.

COMMENT. Two reviewers questioned minimum merchantability specifications of 5 inches diameter breast height and 4 inches at the top cited in the DEIS. "My impression is that the Regional Guide prescribes a 9 inch diameter breast height specification," said one, who added, "if a 5 inch specification is used, a working group stumpage value for trees of that size is required."

RESPONSE: The Forest has produced an entirely new set of empirical yield tables incorporating the latest timber inventory data and utilizing the Prognosis growth and yield model. Minimum merchantability sizes for all but lodgepole pine in the first decade is now 9 inches diameter breast height and 6 inches at the top

Planning Process

COMMENT. "Many of the decisions made in the current planning process are based on data which is either outdated, of unknown precision, conflicting with data from other reliable sources, or derived solely from 'best professional judgement', according to one reviewer. "Wildlife minimum management requirements (MMR) formulation, predictions of future recreational demand, yield tables, timber inventory, and new land suitability analyses are all areas where a high degree of uncertainty exists in the Deschutes DEIS. In addition, these decisions and assumptions have been finalized and incorporated in all alternatives without the provision of any opportunity for full public review."

RESPONSE This public comment to the DEIS provided an extensive review of the assumptions used in preparing the Forest Plan. A Supplement to the DEIS provided additional opportunity for review of the formulation of Management Requirements. The sensitivity analysis performed to test many of these assumptions was evaluated in Appendix B of the EIS. A new timber inventory was used in preparing this FEIS.

COMMENT: A reader asked: "Are the population estimates reasonable for the recreation use estimates? Between 1970 and 1980 the population of Oregon grew by 26 percent and that of Deschutes County by 100 percent. However, between 1980-1985 the state's population increased by only 1.6 percent. The Deschutes NF Plan assumes that recreation on the forest will rise at a rate commensurate with that of the state population. The plan assumes that Oregon's population growth rate will average 2 to 2.5 percent annually. Given the dramatic slowing in population growth over the past 5 years, the resumption of

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annual rates of growth in the 2.0 to 2.5 percent range seems somewhat unlikely in the near future. The extrapolation of past annual growth rates for recreation on the forest itself might have provided a more reasonable basis for estimation."

RESPONSE We agree, population growth shouldn't be the only factor in estimating use levels, especially over the long term. The Forest is currently considering other factors such as, types of use and recent trends in recreational activity.

COMMENT: A reviewer objected to the "tone" of the DEIS and said that it failed to stress the "complementary nature" of timber management, wildlife and recreation. It was suggested that both Intensive Recreation and Dispersed Recreation Areas should remain scheduled harvest areas

RESPONSE: All alternatives were designed to take advantage of opportunities to provide timber and quality recreation on the same lands. Some timber will be removed from Intensive and Dispersed Recreation when this enhances recreational opportunities. Timber will also be harvested in Scenic View Areas. In some cases, however, all resources cannot be entirely accommodated and tradeoffs are required.

COMMENT: A State respondent requested coordination of rare and endangered species and Research Natural Area locations, inventories, and evaluations with the Natural Heritage Advisory Council and Oregon's Natural Heritage Plan.

RESPONSE: Proposals for establishment of Research Natural Areas and the protection of rare and endangered species will be coordinated with the appropriate agencies.

COMMENT: According to one reviewer: "The inherent weakness in the planning process for timber is built into the FORPLAN Model which is designed to behave like a monopolist. It tends to hold high value timber for future higher prices while liquidating low value species in the near future market at a saturation rate. This situation is apparent in all Deschutes plan alternatives where

large ponderosa pine timber harvest is sharply reduced."

RESPONSE: Ponderosa pine harvest reductions displayed in the DEIS alternatives are mainly the result of forcing harvest of dead and dying lodgepole pine resulting from the bark beetle epidemic. The FORPLAN model, based on the economics of maximizing present net value, tends to harvest high value species as rapidly as possible, deferring the lower valued species

Public Involvement

COMMENT: A reviewer felt the DEIS was prepared in secret and that "the involvement of interest groups would have helped planners anticipate concerns and avoid much confusion, misunderstanding, rewriting, and legal actions." Another said the comment period should have been extended

RESPONSE. The National Forest Management Act of 1976 requires 90 days of public review for the DEIS and Proposed Forest Plan. The Forest management team realized that the complexity of the documents would require time for study. Two versions of the DEIS were published. For the first, a reviewing period was set from Oct. 27, 1982 to Feb. 15 1983, 110 days

Several "Forest Plan Reports" were published from 1980 thru 1986. In preparing new version of the DEIS, the Forest had the benefit of the public comments on the first publication. There were regular contacts with interested individuals and groups. The second DEIS was made available to the public for 120 days from Jan 10, 1986 to May 9, 1986. A Supplement to the DEIS was made available to the public from Sept. 19, 1988 to Jan 6, 1989 a period of 100 days

COMMENT: Several correspondents objected to a policy which precluded presentation of prepared statements during a public meeting in Eugene. They referred to the NEPA requirement for maximum public participation and held that opinions and conclusions, however expressed, should be

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part of the decision-making process. Some felt that reliance on written statements to permit citation violates the "inform and involve" requirement and is a return to past practices of "ballot counting."

RESPONSE: It is regrettable that some people expected an opportunity to present prepared statements. All publicity for the meetings explicitly stated "no oral testimony will be taken". The object of the meetings was to create an environment that facilitated one-on-one discussion and furthered understanding of the planning process. Oral testimony was not judged to be the best way to facilitate understanding and open discussion.

Adequacy of the Document

COMMENT: A proponent of on site housing at Mt Bachelor said developments in the future may require such accommodations. The Winter Olympics or a training camp for for the U.S. Ski Team were mentioned as possibilities. It was pointed out that seasonal on site housing has been available for years at the Beattie Summer Racing Camp.

RESPONSE: The Forest evaluated the situation and determined that existing facilities at Sunriver and Bend fulfilled this need. The situation could be modified in the future by amending the Plan

COMMENT: One reviewer said the plan was vague and generalized. "It's very hard to tell what you folks really want to do." More specifically defined goals and simpler language were requested.

RESPONSE. The Forest Plan is intended to provide general management direction for the entire Forest during the next 10-15 years. Within this framework, detailed, site specific planning will be required for individual projects. An effort was made to state goals more clearly and simplify the writing in the FEIS.

COMMENT: An adequate explanation of the effects of timber management on wildlife, recreation and

other programs was lacking in the DEIS, according to one reviewer.

RESPONSE: Chapter 4 of the FEIS has been extensively rewritten to provide additional information about environmental consequences.

COMMENT: Regarding resource outputs, environmental effects, activities, and costs, one reviewer declared. "You provide no references which the public can review to determine if the conclusions you've put down are accurate, valid, or warranted. You must do this pursuant to CFR 1502.21 [NEPA]."

RESPONSE: See response to above comment. In addition, Appendix B provides a detailed discussion of the analytical process and explanations of how effects activities and costs were derived.

Monitoring

COMMENT. Several reviewers criticized the monitoring program, as described in the DEIS. Two decried the absence of provisions for informing the public about progress toward meeting management goals. "Monitoring must both inform and involve the public." said one, who requested "statistically sound methods for measuring goals for recreation, wildlife, fisheries, and watershed. Monitoring surveys should be conducted by independent technicians under contract in order to insure the highest level of impartiality."

Another made the same point, declaring: "How credible is a monitoring program in which compliance is determined solely by the person who will be reprimanded if not in compliance?" This reviewer objected to the "ambiguity" of the program. "Stating that the accuracy of a review must be high, medium, or low is meaningless. Every element monitored should have a statistically sound method of measurement and determining accuracy." He added, "Monitoring programs should also contain contingency plans for handling noncompliance."

Another reviewer faulted the monitoring plan for failing to establish thresholds beyond which activities and practices must be modified. In

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addition: "A process is needed by which the Forest will decide if and when a major plan revision is warranted." This respondent also declared: "The economic parameters to be monitored should be expanded to include employment and personal income in the forest influence zone."

RESPONSE: The monitoring section, Chapter 4 of the Forest Plan, has been thoroughly revised in the Final Forest Plan. It now includes additional monitoring elements and thresholds to determine when action is required. The process by which amendments to and revisions of the Forest Plan will occur is described in Chapter 4.

Public involvement will be an important element in the monitoring plan. Information about the results of monitoring will be available to the public and citizens will be invited to assist in the program. Contracting elements of the monitoring task is an option but it is important to establish that a person responsible for implementing a project is never the sole arbiter of its success or failure. Several levels of peer review are involved in Forest Plan monitoring.

Non-compliance is dealt with by modifying activities or amending the Forest Plan. This is described in Chapter 4 of the Plan.

While the Deschutes NF does not have a goal to maintain employment or personal income at a given level, the economic consequences of Forest management are obviously important. The effect of different management approaches on employment was an important factor in the development of alternatives. Assumptions about the effect of the Preferred Alternative on jobs will be monitored.

COMMENT: A reviewer asked what would happen if there are Wilderness additions or a ban on roading in roadless areas. A clear showing of trade-offs was requested.

RESPONSE: It is not possible to anticipate Congressionally mandated changes in Deschutes NF land allocations. The display of trade-offs in Chapters 2 and 4 of the FEIS has been substantially expanded.

COMMENT: One reviewer said the DEIS suggests that timber management and recreation are mutually exclusive, "a faulty assumption."

RESPONSE: Some timber removal can occur in recreation areas and dispersed recreation is expected in General Forest. In large portions of the Forest, therefore, the two activities are compatible. In others, such as Wilderness, they are not.

COMMENT: The Sierra Club declared, "only the most general treatment is given to such planning components as winter recreation, trail management, stream protection, and geothermal development. It is our hope that the final version of the plan will correct these deficiencies."

RESPONSE: Management direction in all of these areas has been considerably strengthened in the revised standards/guidelines.

COMMENT: The Black Butte Ranch Association requested that the FEIS and Plan include provisions requiring consultation with the association prior to initiating significant activity on lands in the vicinity of Black Butte Ranch. This area of interest can generally be described as township 14S, Range 9E, the Metolius Basin, and Black Butte along with other high elevation locations visible from within and around the ranch.

RESPONSE: Such consultation is already a part of standard Forest Service practices. Public involvement guidelines in the National Environmental Policy Act specifically requires Forest Service to involve interested citizens in the planning process. Adjacent landowners are obviously interested. The Sisters Ranger District has long recognized that this is a sensitive area to many individuals and organizations, including the Ranch Association.

COMMENT: One reviewer said it was difficult to determine the actual prescriptions that would be implemented in the different management areas. "More details of exactly what you propose to do," was requested.

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RESPONSE: Chapter 4 of the Forest Plan now provides additional detail about direction in each management areas and Forest-wide standards/guidelines. The Forest Plan, however, is a over-all management guide. The requested level of detail will be providing during site specific project planning.

COMMENT. The criteria for selecting a Preferred Alternative should have been disclosed. Weights given the individual decision criteria should be explicit.

RESPONSE: The criteria and rationale for selecting a Preferred Alternative are explained in the Record of Decision, which accompanies this FEIS and Forest Plan. The FEIS describes the process of developing and comparing alternatives and discloses environmental effects. The Regional Forester selected the Preferred Alternative and explains why in the Record of Decision

COMMENT: More explicit coordination of the Forest Plan and the City of Bend and Deschutes County comprehensive plans was sought by one reviewer.

RESPONSE: This coordination with city and county plans has occurred.

COMMENT: There was an objection to the use of drawings in the description of each alternative in the DEIS. They were described as "very subjective" by the reviewer, who continued: "The high commodity alternative is made to look unappealing while the remaining alternatives have very similar and more visually appealing drawings "

RESPONSE. The sketches are considered an accurate and useful representation of expected future conditions and were retained.

Maps

COMMENT: One reviewer said alternative maps in the DEIS were inadequate; another said they

were unsufficiently detailed. It was suggested that the use of more identifiable colors would more clearly delineate management area boundaries.

RESPONSE: Maps have been revised and are more legible in the FEIS. The use of color has been improved. Larger scale maps containing more detail are part of the planning records and can be inspected at the Forest Supervisor's Office

COMMENT. One reader objected to the absence of a base map of existing resources and situations. "I found it very difficult to visualize the potential effects of most issues without appropriate maps showing the existing situation from a plant community standpoint and a summary of those natural resources." A map was requested showing major and critical natural resources, "i.e., where and how many acres of non-forest, sub-alpine, mountain hemlock, mixed conifer, lodgepole, ponderosa pine, and meadows " This reader also asked for a map indicating "existing timber management areas; i.e., clearcuts, thinned stands, sold sales, proposed sales, pine beetle areas, and unmanaged stands " It could be accompanied by "a summary table of acres of different plant communities by seral stages (grass forbs to old growth)."

RESPONSE. The detailed maps providing this information are too voluminous to publish, but are available for public review as part of the planning records

COMMENT. There were many comments requesting certain additional maps be included in the FEIS

RESPONSE: A map of the estimated geothermal potential was included. Maps of current geothermal leases are available at the Forest Supervisor's Office. It was not included in the FEIS because the situation changes rapidly and maps are quickly obsolete. Areas where leasing will not be allowed and where development is restricted are indicated in Management Area descriptions and the minerals section of Forest-wide standards/guidelines, Chapter 4 of the proposed Forest Plan. They are displayed on the map for the Preferred Alternative

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Social and Economic Considerations

A map of sales below cost was also requested. It was not included because the issue of sales below cost is being reviewed at the national level. As a general rule, the only sales below cost on this Forest occur in in stands of lodgepole pine which contain a large amount of dead wood. Efforts are made to reduce the costs of such sales. This can be done where adequate stocking can be achieved with natural regeneration and with more efficient methods of preparing and administering sales. Such reductions, however, will not be achieved at the expense of resource protection

Other reviewers asked for maps of livestock grazing allotments, range conditions, trailless areas in Wilderness, and timber working groups. Considerable expense is incurred in publishing maps with the planning documents and these were not major issues identified by the public. They are available at the Forest Supervisor and District Ranger Offices

The map of old growth, included with the DEIS, has been revised for the FEIS.

The Preferred Alternative will be implemented and monitored using a map scale of 2.64 inches per mile, which is too large for publication in the Forest Plan. Management Area boundaries will be more precisely located on a map of this scale.

A map of the location of units within timber sales was not published because unit locations are not fixed until sale preparation is near completion.

Resource Planning Act (RPA)

COMMENT: One reviewer called attention to a discrepancy between the RPA goal for the Forest in the Regional Guide (214 MMBF) and the one used in the DEIS (196 MMBF).

RESPONSE: The 214 MMBF figure includes all categories of timber volume and is a conversion from 46 MMCF (from the board feet measure to cubic feet). Alternative B (RPA) achieves the 46 MMCF figure when both chargeable and non-chargeable harvest is taken into account.

Jobs/Income/Economics

COMMENT: The social analysis presented in the DEIS was faulted for being insufficiently scientific and unsupported by reference.

RESPONSE. Social analysis has been updated in the FEIS

COMMENT: Economic indicators were described as obsolete by a reviewer, who said: "You calculate only jobs and income in relation to direct affects of logging and recreation." Additional comments suggested jobs and income should not be the primary basis for evaluating social effects.

RESPONSE Job and income effects were calculated using the IMPLAN model, which determines the direct, indirect and induced effects of changes in timber, recreation, and grazing outputs. This analysis is described in Appendix B of the FEIS. Job and income effects are one quantitative measure of social and economic effects of any alternative. Qualitative effects are estimated and presented in the FEIS, Chapter 4 and Appendix H.

COMMENT: The Forest Service failed to make an adequate assessment of the essential requirements of tributary dependent mills to determine their requirements and the necessary material that remanufacturing facilities must have in order to maintain their high level of employment. They felt no alternative addressed these considerations and that our data demonstrated that this demand could be met.

RESPONSE: Information is currently lacking in terms of the structure of the remanufacturing industry in the Central Oregon area. Studies are presently underway which will provide a better assessment of this demand. Results of such studies will be evaluated as part of the monitoring and amendment process for the Forest Plan.

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Social and Economic Considerations

COMMENT: One reviewer said more emphasis should be given to short term economic impacts on local communities, including Prineville.

RESPONSE: Alternatives which call of high levels of commodity production and the use of departure harvest schedules to maintain higher short term outputs provide such emphasis. Timber from the Deschutes NF is a relatively insignificant supply factor for mills in Crook County (Prineville).

COMMENT: Conversely a reviewer said the DEIS was biased toward timber production.

RESPONSE: A variation of response to the above comment applies here. The analysis of alternatives which deemphasize timber production enabled the decisionmaker to evaluate tradeoffs inherent in this approach.

COMMENT: Canadian timber imports and the high bidding for logs by foreign timber interests should be taken into account in the economic analysis, according to one respondent.

RESPONSE: A more complete assessment of timber supply and demand has been included in Chapter 3 of the FEIS.

COMMENT: The significance of secondary forest products (mushrooms, herbs, flowers, pharmaceutical plants, and others) was not taken into account in the DEIS, one reviewer declared, adding that "intact ecosystems" are required to sustain them.

RESPONSE: Many of these secondary products were acknowledged in the DEIS but a lack of information precluded detailed evaluation of their economic significance. There have been no reports that those existing on the Deschutes NF are being threatened by management activities.

COMMENT: Overall coordination of timber harvest within a given area could greatly assist in preventing cyclical harvest patterns from developing, or at least assist industry in adapting to changing harvest by volume and species. What are overall harvest

and demand patterns within the state? Are we entering another period of rising demand and competition for public timber supplies as the result of a downward cycle in private timber resources? The plan notes that over the past couple of years a dramatic change has occurred in timber sales on the Deschutes -- from over 80 percent to local processors to 44 percent last year. Over the next two decades the plan calls for a 10 percent reduction in the harvest volume of Ponderosa pine, but a more than offsetting increase for less-valuable subspecies, particularly lodgepole pine. Will area mills adjust to this change?

RESPONSE: The Forest Plan was prepared using the best available data on the ability of the Deschutes NF to produce timber. Many resource considerations went into establishing the proposed harvest levels. Much uncertainty does exist relative to future economic conditions in Oregon. A basic change in the structure of the timber industry will have to occur as the older forest is harvested and replaced with younger and smaller trees.

COMMENT: There was a request to display "the complete economic calculation used to figure job impacts."

RESPONSE. Appendix B of the FEIS describes how the job related effects were calculated.

Non-Priced Benefits

COMMENT. Several reviewers said the recreational resources of the Deschutes NF are underestimated. According to one: "The DEIS assumes that stumpage values will increase by 1 percent per year over the 50 year planning period while recreational resources will not increase over the same period. The contribution of recreational values to the present net value were reduced by 37.4 percent because the present administration was dissatisfied with the travel cost methods of determining recreational activity values. Another reviewer declared: "These documents seriously underestimate the economic value of key recreational and scenic qualities of the forest." Downhill skiing and driving for pleasure were cited as

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Social and Economic Considerations

examples. A third said recreation values used in the FORPLAN are "consistently underestimated." Consultation with the State economist was recommended.

RESPONSE: The values used for resources other than timber were provided by national direction for all National Forests. These values were based on the 1985 Resource Planning Act (RPA) assessment made at the national level. Timber values were based on specific historical data for this Forest. National and regional data supported a 1 percent annual increase in the value of timber stumpage over time. Similar data was not available for recreation and other resources which are not valued based on market place transactions but rather on the basis of a willingness to pay.

Although this is the best available data, there is uncertainty about the future value of all resources. Consequently, sensitivity analysis was conducted and displayed in Appendix B of the FEIS. It shows the impact of using assumptions other than the 1 percent trend. Additionally, the relative economic value of the various resources was not the sole criteria used. Based on the public issues identified during the planning process, a range of alternative management schemes for all resources was formulated and analyzed. Population trend projections and their effect on recreation have been reviewed by the State economist and revised.

COMMENT. Numerous realtors submitted detailed arguments for placing a monetary value on scenic views. Here are some of the comments.

"A parcel of land with no view is worth less than a similar parcel with a view of the countryside, and the country side view is not as desirable as a mountain or water (river, lake, etc.) view."

"Because the Cascade Mountain view is a critical value factor in real estate sales, it is of paramount concern that view be weighted as an economic benefit."

Citing a survey indicating that 45 percent of Black Butte Ranch owners considered

the "beauty of the area" as their primary reason for purchase, a respondent declared "Presently (July 1, 1985), Black Butte Ranch has a valuation of \$141,247,849 and is assessed at \$1,987,357. It would therefore seem to me that a direct correlation of visual quality valuation could be included in your PNV calculations."

"As the Deschutes National Forest has a plan for clear-cutting and scarring the foothills, that plan could be responsible, in part, for a prospective purchaser of Deschutes County real estate to look elsewhere. This could have far-reaching effects when one considers the jobs and payroll lost to another country - including the multiplier effect resulting from those jobs."

"There is absolutely no question in my mind that a pleasing scenic view dramatically enhances both the value and marketability of real estate."

RESPONSE: While a spectacular view can add considerable value to residential and commercial property, it would be very difficult if not impossible to place a dollar value on the appearance of the Forest from locations around it. One of the major elements of the Visual Management System, however, is "sensitivity," which gives special attention to portions of the Forest which are seen by a large number of people. While visual quality is a "non-priced" value which is not included in calculating the Present Net Value of a management alternative, it can be decisive in arriving at Net Public Benefit. This explanation is from Chapter 2 of the FEIS.

"Subjective judgments are necessary in assessing whether the benefits of producing the non-priced value exceed the opportunity costs associated with reducing priced outputs. If the Present Net Value tradeoff is judged acceptable, Net Public Benefit has increased and the alternative is more efficient overall."

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Alternatives, Data Analysis, & Planning Process

In response to these and other public comments additional lands have been assigned to the retention and partial retention visual quality objectives in the Preferred Alternative. A new Front Country Management Area will protect visual quality in the portion of the Forest cited by the the above respondents.

COMMENT: The public has not been fully informed about the wildlife, recreational and scenic values that are currently being produced through land allocations such as wilderness, RNAs, and the OCRA which limit or prohibit timber management. Timber values that have been lost to these and other management designations are not presented in the plan analysis. Therefore, the public cannot easily determine the actual level of values provided by the National Forest, nor can they trace the continued erosion of the commercial forest land base. To leave out a discussion of the valuable contributions to recreation, wildlife habitat, watershed protection and the non-market values that accrue to the public from legislative and administrative designation and from management strategies that are not decided through the Land Management Planning process is doing the public a great disservice and may violate NEPA and NFMA requirements.

RESPONSE: The planning documents do not present the timber resource values foregone as a result of these designations because they have not been inventoried. Resource values contributed by these areas are described in Chapter 3 of the FEIS and Management Area descriptions in Chapter 4 of the Forest Plan

COMMENT: "When trade-offs are necessary," said one respondent, *"they should be clearly explained."* The opportunity cost (shadow price or reduced costs) of the major constraints should be displayed so the public could get an idea of the cost of non-priced benefits."

RESPONSE: Opportunity costs or tradeoffs for various levels of resource emphasis are displayed in Chapter 2, Chapter 4, and Appendix B of the FEIS.

A supplement to the Draft EIS was issued in October of 1988. It contained additional analysis of some primary constraints, the Management Requirements. This information has been included in the FEIS.

Economic Analysis

COMMENT: One reviewer disputed both market and non-market values used in the DEIS, declaring that costs were overstated. "The methodology used to combine market and non-market values is fundamentally incorrect, thus casting doubt about all of the economic conclusions and recommendations. Major changes are needed to correct the Forest Plan to make it economically correct. In the Appendix B of the DEIS it states (p.190) that stumpage values were derived from an average of "cut" or harvested sales from fiscal years 1977 through 1982 calculated in 1982 dollars. The logging costs were derived from an average of "sold" but not harvested sales from the calendar years 1973 through 1982

RESPONSE: The cost and value data used in the analysis followed regional and national direction. Methodology is acknowledged to be less than perfect but very few acres are being allocated based purely on economics.

COMMENT: "The results of the price trend benchmark analysis are significant," a reviewer declared, adding that they "have a major bearing on the management intensities, unsuitable acres, Present Net Value, and pine harvest." The implications of price trends in every alternative, especially the preferred, must be analyzed, according to this reader.

RESPONSE: It is assumed that price trends in the alternatives mirror those indicated in the benchmark analysis. They should not be used to predict the future but to suggest which long range investment decisions may be unreasonable. If they called for the removal of large parcels of land from the timber base, for instance, it would be prudent to consider other criteria

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Alternatives, Data Analysis, & Planning Process

COMMENT: A comparison between the percentage of logs from the Forest bought by Deschutes County mills and timber processed in the county was "incorrect," according to one reviewer. "The percentages given in the text have no relationship "

RESPONSE: This discussion has been updated and clarified in the FEIS and Appendix B

COMMENT: A reviewer faulted the DEIS for failing to fully address the changing timber supply situation in Oregon. "Inventories on private industry lands are falling. Adjacent National Forests will likely be lowering harvest levels as a result of the new plans currently in process. Ponderosa pine availability on all ownerships is decreasing. In light of these trends, it is unrealistic to assume that the Deschutes National Forest faces a horizontal demand curve for timber and that the number of jobs, personal income, and payments to counties will not be affected by these other trends and factors outside the National Forest boundaries. The economic analysis for the DEIS should take into account the dynamic social and economic environment in which the forest operates instead of maintaining the false premise that the Deschutes is an isolated, independent entity.

"The Forest Service should widen its scope of economic and social analysis to include the entire state of Oregon rather than just Deschutes County. Since more than one-half of the timber logged from the Deschutes National Forest now leaves the county, other areas of the state are also deeply affected by Deschutes National Forest "

RESPONSE: The discussion of timber supply and demand has been revised in the FEIS. The effects of the proposed plans on the state of Oregon has been examined by the Regional Forester. Each Forest has assessed the more localized effects in accordance with the requirements of NFMA. While it can be argued that the Deschutes NF could change the amount of volume offered for harvest to the extent that it affects the price, it is not currently possible to quantify such a price/quantity relationship reliably at the local level.

COMMENT. "I would like to know what assumptions were made for inflation, population growth, etc ", a reader declared " In other words, how cloudy is your crystal ball?"

RESPONSE A detailed discussion of economic assumptions is given in Appendix B of the FEIS

Receipts to the Forest Service/Federal Government

COMMENT: More information, including a table, showing "the cost to the public of road building, deficit timber sales, and other federally subsidized Forest Service activities" was requested. This was considered necessary to permit accurate decisions effecting timber production and other Forest resources.

RESPONSE: The cost of road construction and reconstruction needed to harvest a timber sale are commonly defrayed by a portion of the value of the timber harvested. Information about these purchaser credits is available at the Forest Supervisor's Office. See below for discussion of "deficit" timber sales.

COMMENT. "All below cost sales should be eliminated from the timber harvest base," one reviewer declared, and was one of the respondents asking for a map showing below cost sales and unsuitable lands.

RESPONSE: While economics is one of the important considerations in both the selection of a Preferred Alternative and in the design of individual timber sales, it is not the only consideration. Sales may be designed to meet management objectives for other resources or the management of insect and disease problems. Contending with trees killed by the bark beetle epidemic has produced below cost sales on this Forest. Thinning sales, needed to achieve growth of crop trees, frequently have costs exceeding revenues. The future value of crop trees, however, is enhanced.

A generalized map of land unsuitable for timber production is part of the process records for the Forest Plan. A map of below cost sales would

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require a determination of the economic efficiency of individual sales. This site specific information is beyond the scope of the Forest Plan and FEIS, which establish broad direction for activities on the Forest.

COMMENT: The Forest Service should conduct a profitable operation, a reviewer declared. "One solution would be to set your minimum bids at more realistic rates and then to set the rates for timber to be removed on a yearly basis rather than on a sale-by-sale basis.

RESPONSE: Revisions in timber sale contracts in last few years allow for price adjustments over time to reflect changing market conditions. Appraised rates are based on current values and the estimated cost of timber removal. Minimum rates are only established if the appraised value is negative or very low. The Forest Service will not sell stumpage below the minimum rate. Competitive bidding usually results in sales significantly above the appraised rates.

COMMENT: A reviewer said it was difficult to evaluate alternatives because the assumptions for economic values are not presented. "For example, when you say 'revenues returned to the government', do you also include income taxes from businesses statewide that benefit from people visiting the Deschutes, buying food, fishing licenses, etc.?"

RESPONSE: In Appendix B of the FEIS, assumptions used in the economic analysis are described. Only revenue returned to the Treasury from timber sale receipts, campground fee collections, grazing use fees and special use permits are included in the calculation of revenues returned to government.

Employment

COMMENT: One reader held that impacts on jobs by alternative are not explained adequately in the DEIS or appendices. "It is unclear if the 21 jobs lost by implementation of the Preferred Alternative would be direct lumber and wood products jobs

or indirect jobs. It is also unclear whether the job losses are quantified only for Deschutes County or for the whole market area."

RESPONSE: The job changes are across all sectors of the local economy and Deschutes County was used as a surrogate for the entire zone of influence. The estimated changes in employment and income would not change if additional counties were included in the zone of influence.

COMMENT: A stronger effort needs to be made to "increase job numbers, personal income and payments to counties by modifying the harvest scheduling and improving the reliability of the data and economic analysis," a reviewer said.

RESPONSE: Timber harvest scheduling has been reevaluated in light of a new timber inventory. Cost benefit and other elements of the economic analysis have also been reviewed and adjusted for the same reason.

COMMENT: The coefficients used in Table B-V-3 (Appendix B, DEIS) were questioned by a reviewer "Actually, they appear somewhat conservative. Current output generates an employment response, including direct, indirect and induced, of 1,566 jobs. In 1985 employment in wood products alone averaged 3,100, with wages averaging about \$19,500. Total income estimated per job was about \$25,000. How many of the industry total jobs are generated by Deschutes National Forest timber is not known, but the area's sizeable mill work industry very likely is a net importer of pine lumber. Using 1977 data in the model, when employment in wood products was only 2,690, may also be a problem. Obviously, given the range of possible responses to any changes in harvest policy on the part of the Deschutes National Forest alone, predictions regarding effects on jobs and income must be highly subjective in nature "

RESPONSE. The data used was the best available at the time and using it was in conformance with the Regional and National direction to use IMPLAN. The basic data has been changed as is shown in Appendix B.

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Alternatives, Data Analysis, & Planning Process

COMMENT: None of the Forest Service alternatives addresses the number of jobs already lost and the impact on local economies by the reductions of allowable harvesting of ponderosa pine in the Deschutes National Forest.

RESPONSE: Forest Plan alternatives were intended to address the future but past supply and demand for timber on the Forest is discussed in Chapter 3 of the FEIS.

COMMENT: A respondent pointed out that Alternative C is identified as the Preferred Alternative in the Reviewer's Guide and Alternative E elsewhere. It was also noted that "The potential impact on number of jobs changed in the local economy (step 2, response form) is presented in numbers apparently based only on timber board feet. The numbers appear to directly coincide with MMBF. Is no consideration given for jobs which will occur in the tourist and service industries as Bend and the surrounding areas increases as the summer and winter playground for most of Oregon and parts of southern Washington? No account appears to be given for the probable loss of jobs to the economy due to factors beyond available MMBF." Increasing competition from the southeastern United States and Canada, mill modernization, and employment in the recreation sector encouraged by emphasis on visual quality, wildlife and recreation were mentioned as examples.

RESPONSE: The Review's Guide was incorrect in identifying Alternative C as the Preferred Alternative. Impact on jobs is the effect of changes in timber, recreation, and grazing outputs whether they are direct, indirect or induced. The most dramatic changes are produced by increases or decreases in timber production. In Table B-V-3, Appendix B, one can compare the response coefficients for timber outputs with those for the other resources mentioned. Competition from other regions, mill modernization, and the number and value of jobs which may be created by increased recreation are more fully discussed in Chapter 3 of the FEIS.

Long Term Benefits

COMMENT: More complete information about tourism and recreation was sought by a respondent, who asked how much money is generated and how many people are employed by Sunriver and Inn of the Seventh Mountain. A chart showing where money generated by the resorts is spent was requested. It should "combine these monies with revenues from hunting, fishing and other recreations. The combination of all the above factors dwarfs by leaps and bounds the revenues brought in by timber. These factors look even more promising because their influence is increasing each year and the forest can provide them in perpetuity.

RESPONSE: The FEIS has been updated with information regarding tourism and recreation. Financial and employment information for Sunriver and the Inn of the Seventh Mountain is unavailable to the Forest. There is ongoing research into the revenues for recreation and timber and their relationship.

Forest Coordination Efforts

COMMENT: The representative of the State Department of Forestry said the Forest should be commended for coordinating the planning effort with the State. This respondent, however, requested a better presentation of the issues which were presented to the Forest by the State.

RESPONSE: This issues and the Forest's response are indicated in this Appendix to the FEIS.

COMMENT: Concern about the cumulative effect of timber harvest plans by all tree producers in Oregon was expressed by one reviewer. The level of harvest on the Forest should be considered "in conjunction with that proposed by other National Forests, the Bureau of Land Management, and on private lands." Implementation should be delayed until "the total impact" on the lumber and wood industry in Oregon can be evaluated.

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Soil, Water and Riparian Management

RESPONSE: National Forest Plans in Oregon will not be implemented until the Governor's office has an opportunity to review them and make recommendations. The levels of goods and services which all National Forest Plans in the Region 6 propose were totaled and taken into consideration by the Regional Forester in his evaluation of each Forest Plan. This provided the larger context for more local decisions.

Budget (In General)

COMMENT: The Preferred Alternative calls for a 15 percent increase in funding to implement the Forest Plan. Several reviewers expressed concern about the likelihood of this level of funding in light of the nation's budget deficit and Congressionally imposed spending limits. Five asked about the consequences of a shortfall in funding "In the past," said one, "a lowered timber sale volume package results. This causes much speculation and uncertainty in the wood products industry." Another observed "The key question is will the Deschutes National Forest have the budgetary resources to carry out proposed (recreation) facility development."

RESPONSE: Congress controls the budget process. The effect of budget limitations would be to increase the length of time required to reach the desired future condition projected by the Forest Plan. It could also effect some outputs. If funding for intensive timber management is reduced, for instance, adjustments would have to be made in the allowable sale quantity. It could also slow the process of harvesting beetle killed lodgepole pine to make way for healthy new stands. Delays in the construction of recreation facilities might be offset by partnerships and the efforts of volunteers. Effects of budget levels will be adjusted through monitoring processes.

COMMENT: "The National Forest Planning process seems to be improving," a reviewer remarked, adding: "There are more opportunities for public involvement. Yet funding is still basically single use, not multiple use. Very little money is spent

on recreation and tourism development when compared to timber harvest "

RESPONSE: Congress decides how funds for Forest Service activities will be allocated. Budget requests by the Forest will now be based on objectives established by the Forest Plan, which is the product of an extensive effort to achieve the appropriate balance between all Forest resources.

COMMENT: One reader was surprised by budget figures published in the Reviewer's Guide. "I see a range of \$661,300,000 to \$1,285,800.....if it takes that kind of money to run the Deschutes the only proper plan would be to dispose of it or shut it down "

RESPONSE: This was a misprint which has been corrected.

COMMENT: The State Department of Fish and Wildlife said funding for timber harvest, particularly in lodge pole pine, should be contingent upon funding for wildlife habitat protection and improvement

RESPONSE: The Forest Plan calls for funding which would achieve the balance sought by the State. Congress, however, has the final word on appropriations

Volunteers

COMMENT: "I believe we need to take advantage of these youth groups that want to get out and help make new camping areas, trails and such," one reader declared. Another encouraged the use of volunteers to clear trails.

RESPONSE: The Forest has always taken advantage of volunteers and youth groups to accomplish much needed work on the Forest. In a period of constrained funding, this assistance has assumed large importance.

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Range Management

Riparian Management

COMMENT: A reviewer criticized the adequacy of measures called for in the DEIS to protect riparian areas. "Most big game biologists stress the importance of riparian habitat as fawning and calving areas for deer and elk. Additionally, vital habitat for both water fowl and non-game species are contained here. Oregon Hunters Association recommends that all perennial streams within the forest be managed to optimize riparian habitat. This may mean exclusion of logging activities in stream corridors, and exclusion of grazing activity."

RESPONSE: Standards/Guidelines for riparian management have been significantly strengthened and refined. See Chapter 4 of the Forest Plan. Riparian dependent resources will be maintained or improved. When conflicts occur, the decision will be made in favor of riparian dependent resources.

Soils

COMMENT: A reader said soil permeability in the area means that groundwater is vulnerable. "What is the quality of groundwater on the Forest? Have there been instances of contamination?"

RESPONSE: To date, more than 3,000 water wells have been drilled on or within 10 miles of the Forest. Planners concluded that the quality and quantity of ground water tapped by these wells would not be significantly affected by activities called for in any alternative.

COMMENT: "No rationale or research is presented for stating that there are no significant problems associated with soil, water, and riparian resources requiring special restrictions," one respondent declared.

RESPONSE: Standards/Guidelines for these resources have been made more explicit in the Final Forest Plan (see Chapter 4). Numerous references to scientific literature regarding these resources are now included in Chapter 3 of the FEIS, the Affected Environment.

Water

COMMENT: Cooperation between the Forest Service and the watermaster during drought was pledged in the Draft Forest Plan. A reviewer asked that this be expanded to include cooperation with any state task force established to respond to drought conditions.

RESPONSE: This change has been made in the Final Forest Plan. The Forest intends to meet it's coordination responsibilities.

COMMENT: Livestock grazing should not be allowed in the Oregon Cascade Recreation Area (OCRA), especially in Big Marsh. Grazing is not compatible with the recreation and wildlife values of the OCRA.

RESPONSE: While cattle grazing is permitted in legislation which created the Oregon Cascade Recreation Area, an Environmental Assessment prepared for Big Marsh recommends terminating the allotment there.

COMMENT: An increase of 3,000 animal unit months of grazing by domestic livestock, called for in the DEIS Preferred Alternative, was opposed. Both this projection and increased spending for range improvements, according to this respondent, fail to recognize the decline in cattle production since 1975. Because of this decline and the need for additional wildlife forage, the respondent proposed abandoning allotments which are unused for three years.

RESPONSE: The increase in AUM's in the FEIS is a reflection of possible capacity. Only the more productive grazing allotments are expected to be utilized. The actual amount of grazing will depend on the demand for the forage by the local ranching communities.

Range improvements will be constructed on a cost effective basis, usually on the most productive allotments now being used. Improvements such as water development, seeding, and burning will

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Range Management

benefit many wildlife species as well as livestock. Fencing will provide better control of cattle, producing more uniform forage utilization.

COMMENT: You state that grazing allotments will be managed at fair or better condition. ONRC believes that good condition should be the minimum objective for ecological condition in any allotment open to commercial livestock grazing.

RESPONSE: Forage objectives are identified in grazing management plans which are prepared for every allotment. The Forest Plan standards/guidelines note general utilization limitations for grasses and shrubs.

COMMENT: "Please include the RO memo that relates to AUM values on the Forest in the revised Plan," a reviewer requested adding: "If an AUM of forage on the Deschutes National Forest is worth \$10.73, why do ranchers only pay \$1.35 per AUM? We believes that fair market value should be charged for market goods."

RESPONSE: Grazing fees are established at a national level and are beyond the scope of the Forest Plan

COMMENT: "There are isolated overgrazing problems and there should be additional standards to protect these systems," a reader declared.

RESPONSE. Standards/Guidelines have been revised to provide additional protection, especially in riparian areas

Fire

COMMENT "Burning to reduce fuels loading is probably a waste of time," adding: "It's just the latest fad. Burning for slash elimination is an acceptable practice."

RESPONSE: The Forest does no burning where a need and purpose have not been identified.

Prescriptions must be written for any project burning on the Forest

We assume, "burning to reduce fuel loading," refers to understory burning, such as that which is done in the Swede Ridge Area west of Bend. This area has historically had wildfires of 100 acres or more. Understory burning in this area is an attempt to reduce the fire hazard that has the potential to threaten homes and other improvements close to Bend.

COMMENT: Power crushing of slash from thinning "seems to do nothing but create a tremendous source for potential wild fire," said one reviewer

RESPONSE: Crushing will only be used where total fuel loading after crushing will be within acceptable limits and where results will meet land management objectives for fire suppression (see Chapter 4, Forest Plan). Generally, crushing is used where total fuel loading is acceptable but the arrangement of the fuels poses a fire hazard. Crushing greatly reduces this hazard

Air Quality

COMMENT: There was concern expressed that burning causes air quality problems and that the DEIS did not address the health impact of smoke emissions and their effects

RESPONSE: Maintaining air quality is an important Forest objective and discussion of the subject has been expanded in Chapters 3 and 4 of the FEIS. Health hazard as well as visibility problems are considered

Compliance with the State Smoke Plan on prescribed burn days is considered assurance that the Forest is meeting the 24-hour standard. Protection of recreational and rural residential populations is given special attention. All means of smoke management (reduction, avoidance, and scheduling) is employed to assure compliance with the standard for these areas.

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Recreation Management

Statewide, emissions from Forest Service prescribed burning are being reduced. This reduction occurs because the Forest is employing tested and proven techniques to reduce emissions and burning less tons per acre.

Prescribed burning is guided by the objectives of State Smoke and Visibility Plans to avoid and minimize impacts on the public.

A recently published Vegetation Management Plan for Region 6 emphasizes human health issues.

Recreation (in General)

COMMENT: Many respondents felt the importance of recreation on the Forest was slighted in the DEIS. One asserted that recreation is "Central Oregon's number one growth industry and an integral part of its economic development plan". Some said recreation, rather than timber, was the future of the Forest. Several said that Deschutes recreation has both State and national significance. Most of these respondents advocated measures to maintain or increase the level of recreational visitation. Others, while recognizing the value of recreation, cautioned that it will not replace the forest products industry as the economic mainstay of the area. Lower salaries for work in recreation related businesses was often cited in this connection.

RESPONSE: The treatment of recreation in the FEIS and Final Forest Plan has been considerably expanded as a result of these and similar comments. Recreation is a primary factor in Central Oregon's economy. Both Oregonians and many vacationers from elsewhere visit the Forest. The annual contribution to the local economy from recreational activities is approximately 375 million dollars.

The Forest Plan calls for expanding recreational facilities to meet a growing demand. This will slightly reduce timber harvest. Timber in Intensive, Dispersed, and Winter Recreation Management

Areas will not be included in the base used to calculate the Forest's Allowable Sale Quantity.

COMMENT: A response from the Oregon Department of Transportation's Park and Recreation Division stated a number of concerns. They included:

An apparent erosion of primitive and semi-primitive recreation opportunities. The park division requested a projection of the anticipated demand for dispersed recreation and information about how it would be met.

An understatement of the role which the Forest Service plays in providing outdoor recreation in Oregon.

The emphasis on developed recreation (the 1983 Statewide Comprehensive Outdoor Recreation Plan indicates an oversupply of camping and picnic sites in Deschutes, Jefferson, and Klamath Counties). A reduction of service levels at developed sites, however, was opposed by the State.

A need for 30 miles of walking and 20 horse trails by the year 2000.

A recommendation that Fall River be managed to retain the option of state designation.

The state also made recommendations for Wild and Scenic River designation, an issue which was resolved for this planning period by the Oregon Wild & Scenic Rivers Act of 1988. A challenge to recreation values used in the DEIS economic analysis was addressed above under Non-Priced Benefits.

RESPONSE: **Dispersed Recreation:** The demand for dispersed recreation is expected to grow at about the same rate as the population. A growth rate of between 2 and 2.5 percent annually during this planning period was projected in the FEIS.

While several of the Roadless Areas would ultimately be roaded during implementation of the

Appendix J

Recreation Management

Preferred Alternative, this would not occur during the first decade. It will be possible to reassess recreation supply and demand before development occurs.

Developed (Intensive) Recreation: The use of many existing sites (primarily campgrounds, picnic and boat launching areas) exceeds the desired occupancy rates of 40 to 50 percent. For this reason, the Plan calls for the rehabilitation and expansion of some of these sites and the development of others. Full service will be maintained at fee sites and, while non-fee sites will be operated at reduced levels, they will be maintain to standard. The quality of recreation is expected to remain high.

A planned schedule for Intensive Recreation sites and trails has been included in the FEIS. It calls for the construction of more trails than has been requested by the State.

The Forest portion of Fall River is allocated to Scenic Views in the Preferred Alternative, which will leave the option of future designation open

COMMENT: A reviewer called attention to an inconsistency in the "Need to Establish or Change Direction" portion of the Draft Forest Plan. One passage reads: "Visual or protection management areas with the potential to handle intensive recreation uses should be managed with recreation emphasis to provide more opportunities" Another states: "Many areas currently in protection management should be considered for a land allocation that would emphasize management for undeveloped or dispersed use". The respondent observed that these goals "are not mutually exclusive, but ways and means to accomplish them are unclear."

RESPONSE: The wording in the first passage was incorrect and has been changed to refer only to Visual Management Areas. Areas which can accommodate intensive recreation are now classified accordingly. The wording in the second passage was expanded.

COMMENT: Several reviewers said the objectives of the former Management Area 13, which accom-

modated winter recreation and geothermal development, were in conflict

RESPONSE In view of these comments, geothermal development was removed as a specific objective in the Winter Recreation Management Area. There would, however, be few restrictions on geothermal projects in these areas.

COMMENT: Most readers favoring more dispersed or undeveloped recreation opportunities mentioned the need for separation between motorized and nonmotorized recreation areas.

RESPONSE: Separation of motorized and nonmotorized use has been emphasized in both trail system management and standards/guidelines for the Winter Recreation Management Area

COMMENT: One respondent thought the DEIS and Draft Plan did not sufficiently acknowledge the high dispersed recreation use along the Deschutes and Metolius Rivers

RESPONSE: Additional standards/guidelines have been written to guide management of Deschutes and Metolius River corridors (see description of the Wild and Scenic River Management Area and direction for activities in riparian areas)

COMMENT. The issue of new road construction in the Dispersed Recreation Management Area was raised by one respondent, who said, "no new roads."

RESPONSE: Added direction in standards/guidelines calls for maintaining roads for recreation at the current level of mileage and density.

COMMENT. Several respondents asked that plans for future development of nordic skiing areas be made publicly available.

RESPONSE: A number of additional nordic trails and sno-parks have been added to a trails implementation schedule in the final Forest Plan

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Recreation Management

Trails

COMMENT. Several reviewers faulted the DEIS for failing to resolve conflicts between trail users. Some favored development of trails for nonmotorized use only; others asked for the creation of a mountain bike trail system.

RESPONSE: The revised standards/guidelines contain several measures to reduce conflict between hikers and bikers and snowmobilers and nordic skiers.

COMMENT: Trail protection and relocation was insufficiently treated in the DEIS, according to a number of readers.

RESPONSE: The FEIS and Forest Plan now include provisions for locating and relocating trails to avoid harvest areas and roads. Measures expediting cleanup and restoration of trails unavoidably disturbed by harvest activities have also been added.

COMMENT. None of the offered alternatives present detailed information regarding the current status of the trail system on the forest or proposals for future development and maintenance.

RESPONSE. This information has been included in the Final Plan and EIS.

Cultural Resources

COMMENT: Regarding the impact of cultural resource programs on management activities, a reviewer said: "these concerns and problems should be reflected in the Forest Plan so that it responds to the day-to-day situations on the ground and short and long-term Forest management problems. Lacking such integration, cultural resources will remain a controversial and difficult resource for the Forest Service to manage."

RESPONSE: Federal laws require that cultural resources be considered when any ground disturbing activity occurs. This includes short-term

management (a crisis situation) or long-term management. Standards/Guidelines were developed to comply with these laws. They do not "resolve" problems but are expected to integrate the treatment of cultural resources into day-to-day management.

COMMENT: A correspondent noted that timber harvest is being extended into areas previously avoided because they contain cultural resources. "The Forest Service will be required to accelerate evaluation and mitigation. Manage cultural resources rather than avoid them."

RESPONSE: Evaluation and mitigation has already increased, both because of these circumstances and due to interest expressed by the public. In addition to gathering data, information obtained in carrying out this program is being shared with the public.

COMMENT: The Forest Service gives inadequate consideration to historical resources, according to two reviewers.

RESPONSE: This impression may be attributable to the fact that prehistoric resources outnumber historic ones and are more likely to affect project planning. Many historic sites are protected through continued use. Preservation in place and adaptive reuse are always the preferred treatment for historic structures.

Off Highway Vehicles

COMMENT: One reader said "very little attention" was paid in the DEIS to conflicts between trail and backcountry users with different preferences, primarily hikers and off-road vehicle users. Another said "wheeled off-road vehicles" should "be restricted to designated roads and trails throughout the Forest."

RESPONSE: Management Area standards/guidelines in the Plan now provide direction to minimize conflicts between different classes of trail and backcountry users.

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Real Estate Management

COMMENT: A national association of off-highway vehicle operators proposed "adopt-a-trail/road" projects involving local organizations in lieu of closing areas to these vehicles.

RESPONSE: Areas of the Forest open to off-highway-vehicles in the Preferred Alternative are expected to meet demand. The rehabilitation of roads and trails by user groups is encouraged.

Special Uses

COMMENT: A reviewer asked that standards/guidelines be revised to reflect State policy on small hydro-electric projects.

RESPONSE: The State policy has been acknowledged in the Final Forest Plan, which also spells out provisions for coordination.

Utility Corridors

COMMENT: Regarding a map indicating utility corridors, a reviewer asked: "Should major phone lines also show? Does 14.4 KV indicate major corridor? If so, more exist. How about showing power lines currently serving electronic sites? Substations, compressor and capacitor stations don't show. More potentials exist. Midstate is currently proposing 115 KV LaPine-Sunriver line. Existing PGE line shows or should show." Another respondent had trouble with the utility corridor map, declaring them "confusing (different length of dash lines)."

RESPONSE: Utility corridors as identified in the plan are limited to major transmission lines (69 KV and over, railroads, and gas lines). The map has been revised to show only major existing utility corridors and windows for future corridors. The different types of use were not shown on the corridor map.

COMMENT: "An attempt should be made to develop specific powerline standards/guidelines now," said

a respondent. "You have a objective statement which sounds good. But, it may not have any real operational meaning. Let's make some of those decisions now rather than fighting never ending piecemeal battles later on."

RESPONSE: Since each powerline project has different requirements, site specific decisions will be made through the NEPA process if and when a project is proposed. Specific powerline Standards/Guidelines, other than the identification of locations where power lines are not permitted, are not included in the Forest Plan.

COMMENT: "Transmission line siting is only minimally addressed, a reviewer remarked, adding: "This is appropriate. The plan cannot at this time predict how many transmission lines will be needed. However, the plan should reflect that existing transmission corridors will be used for new transmission line capacity where possible."

RESPONSE: In power line siting, first priority will be given to the use of existing corridors. Second priority will be to expand existing corridors.

Small Hydro Development

COMMENT: A reader said the Forest Plan should "identify sites where hydro projects can be developed with minimal and/or no impact on other resources or where there would be a positive impact."

RESPONSE: Wild and Scenic River legislation has limited the number of sites where hydro projects can be developed on the Forest. It can occur at existing impoundments such as Wickiup, Craine Prairie, and Crescent Lake.

COMMENT: A reader suggested "that the list of projects in Table 10, Appendix E, be modified to reflect current hydro policy in the Deschutes as stated in ORS 543.165 and other State requirements such as water rights (the upper Basin Withdrawal Order and Hydro Rules OAR 690, Division 50."

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Minerals

RESPONSE: The appendix on Wild and Scenic Rivers has been updated to reflect the current situation.

COMMENT: References to a 1/12/1914 power site withdrawal and possible withdrawal in T25S, R7E, Sec. 7 and/or 18 were questioned by a respondent.

RESPONSE: The 1914 withdrawal is no longer in effect. There are no records of a withdrawal in T25S, R7E.

COMMENT: Power site withdrawals Twn. 24 S., R 7 E Sec 14, NW 1/4, N 1/2, SW 1/4 BLM records show power site reserve 3412-EO SO INTPR 101 - entry 1/21/1914 - Action 8/2/27. to conform to survey. A dam at this location would flood the county road and new USFS campground. Possible power or irrigation site are Twn. 25 S., R 7 E., sections 5 and/or 18, SW 1/4 and NW 1/4 respectively. A survey was made years ago and an azimuth mark set on west side of Big Marsh Creek opposite the location of John Harrison cabin - since burned. No entry in BLM records of a withdrawal - at least in the records I have. Suggest this be investigated as well as the withdrawal noted above.

RESPONSE: State law, in 1987, placed a moratorium on all hydro projects in the Deschutes Basin.

We do not have any records of power site withdrawals in T 25 S , R. 7 E in our files or at our Regional Office.

Land Status

COMMENT: "Change the classification in the Meadow Camp area to preserve these land for wildlife," said one respondent."

RESPONSE: The classification of Meadow Camp was changed from 3-C to 2 in the Land Adjustment Plan. This retains the area in public ownership.

COMMENT: Several reviewers faulted the DEIS for underestimating the importance of minerals. One asked for "meaningful inventory data for minerals and oil and gas" and said the Plan should "include the current status and proposed future procedures and stipulations for minerals on your National Forest." He added, "The plan should provide direction for minerals policy and future minerals management and indicate how minerals management is coordinated with other resource uses."

One said a general mineral inventory performed in 1977 should have been cited. "The alternatives have largely ignored non-energy minerals. Provision should be made for exploration under several of the Management Areas. Establish standards that determine what areas should be withdrawn from mineral development."

RESPONSE: There are no known deposits of gold and other precious metals, strategic metals, and base metals on the Forest. There are, however, a number of mining claims located on the Forest. The only active claims are pumice, aggregate, and cinder claims that were located before 1955. There are some claims for gold and other precious metals but there is no evidence that minerals have been found. The numbers and locations of claims vary considerably each year as new claims are located and old claims are relinquished. A list of claims with locations can be obtained at the Forest Supervisors office.

COMMENT: A reviewer declared: "Not all sources on the Ft. Rock are shown on the plan map. Many prospects and borrow pits are not shown and may be needed in the next 10 years. A hard rock source is proposed in the Arnold Ice Cave and this does not appear on the mineral plan map. Sand Flat cinder pit is used by the public occasionally."

RESPONSE: The list of pits on the Forest has been updated. All of the existing permits should now be included on the map, including the Sand Flats pit. Provisions for new mineral materials sources have been included in Chapter 4, Forest plan standards/guidelines. The hard rock source proposed for Arnold Ice Cave was over a mile from the cave. Known caves will be protected.

Appendix J Minerals

(see Cave Management standards/guidelines,
Chapter 4 of the Plan

include an analysis of economic and resource
values

Geothermal Development

COMMENT: One reader said the DEIS "is vague and inaccurate in its treatment of geothermal potential. Without inventory data specific to the area the plan is misdirected in its assumptions of potential, impacts of development, and tradeoff judgements."

RESPONSE: The geothermal sections of the Final Plan and EIS have been revised.

COMMENT: A reviewer said the DEIS suggests that only Environmental Assessments will be required for geothermal leasing once the Forest Plan is implemented. "The DEIS and Plan are too general to exclude the need for Environmental Impact Statements on specific projects that have the potential to significantly impact the environment."

RESPONSE: The Environmental Analysis process could result in a categorical exclusion, an Environmental Assessment, or an Environmental Impact Statement, depending on the magnitude of the proposal and potential environmental and social impacts. It is clear that the public, community groups, and many others will need information about geothermal energy in order to offer informed responses to proposals.

COMMENT: "The plan gives too much leeway to the lease holder after the lease is given," according to one reviewer. "Economic justification of a development is not described, so there is no way to be sure that society needs the development before the final work is undertaken."

RESPONSE: Once a lease is granted, the lease holder cannot simply begin full scale geothermal development. Another Environmental Analysis must be done for each proposed development. This analysis, which again involves the public, will

COMMENT: "The Deschutes National Forest Plan in its final version should concur with the State Energy Facility Siting Council and Deschutes County in prohibiting development over 18,100 acres called for at the State and local levels.

RESPONSE: Based on public comments received on the draft plan, support for the lease denial area within the Caldera was strongly supported. Through further environmental analysis the Forest will determine what additional lands within the Known Geothermal Resource Area would be available or closed to geothermal development. This analysis will be conducted subsequent to the Final Plan.

COMMENT: The DEIS is not specific enough in describing the environmental consequences of geothermal development, a reviewer declared, particularly those affecting groundwater.

RESPONSE: The Forest has a vast supply of high quality ground water. Accidents during geothermal development and operation could put local ground water at risk. Regulation and monitoring, by both the Forest Service and State, reduce this risk to a very low level. The geothermal industry has a good record in protecting groundwater.

COMMENT: A reviewer suggested that NSO (what is it?) be used instead of leasing denial in the Bend Watershed, Research Natural Areas, the Experimental Forests and other areas where this activity is precluded. "Denial decisions should only be made with a fully weighted analysis of all resources."

RESPONSE: For different reasons, the primary objective in Wilderness Areas, Newberry Crater, Research Natural Areas, the Bend watershed, and the Oregon Cascades Recreation Area is to retain natural or near natural conditions. Geothermal development is not considered compatible with this objective. Experimental Forests are not

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Special Interest and Designated Areas

required to remain in natural condition but geothermal development could interfere with research. When possible, tradeoffs which are the consequence of this decision have been calculated and weighed.

COMMENT: A reviewer inquired about compliance with State requirements, OAR Chapter 6&0 Division 65.)

RESPONSE: Reference will be made to State permitting requirements for deep wells and plant siting in the EIS.

COMMENT: Figures on the generating capacity of the Geysers facility in California were questioned by a respondent. The number of acres a 50 megawatt geothermal plant would require was also disputed.

RESPONSE: The FEIS was revised to reflect current capacity figures. The discussion on plant size is now written to describe a typical geothermal development rather than one with specified capacity

COMMENT: The construction of housing, which would include sewage facilities, at the site of geothermal facilities was opposed by a reviewer.

RESPONSE: The FEIS was revised to indicate that most, if not all, geothermal projects on the Forest would be within commuting distance of nearby communities and would not require on-site housing.

COMMENT: A reviewer called attention to a statement in the DEIS indicating that geothermal well pads would range from one to four acres depending on the number of wells. Four to five acre pads, it was suggested, would be more efficient and require less overall disturbance.

RESPONSE: The FEIS includes the option of using larger pads and fewer sites.

COMMENT: A reviewer questioned a statement in the DEIS which indicated that land in geothermal lease areas could be used for other purposes during the construction phase

RESPONSE: This statement has been removed from the EIS.

COMMENT: Statements about the life of geothermal fields in the DEIS were questioned. "Comparison of adjacent reservoirs is usually inconclusive."

RESPONSE: Reference to other fields has been changed in the EIS.

COMMENT: One reader pointed out that geothermal wells cannot be "removed" when they are depleted, as was suggested in the DEIS. "Wells are plugged and abandoned, not removed."

RESPONSE: The reference to removal was removed.

COMMENT: Current geothermal leases should be made to conform to stipulations in the new Standards/Guidelines, a respondent declared

RESPONSE: Notices and stipulations in current leases predate the new standards/guidelines and be changed only if the lease holder agrees. An effort to gain such approval will be made if conditions imposed by the current leases fail to sufficiently mitigate environmental impacts.

Special Interest Areas

COMMENT: A respondent requested the addition of the Horn of the Metolious, located in the Metolius Breaks Area, to the list of Special Interest Areas in the Preferred Alternative. Another agreed and also proposed the addition of Castle Rock, Balancing Rock, Head of Jack Creek, Black Crater, Squaw Creek Falls, McArthur Rim, and Davis Lake. There was also a request for a Special Interest

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Special Interest and Designated Areas

Area which would include Boyd, Skeleton, Arnold, Charcoal, Hidden Forest, and Wind Caves.

RESPONSE: Special Interest Areas were reevaluated and Balancing Rock, Castle Rock, and Davis Lake were added. These existing and proposed Special Interest Areas are considered adequately representative of features the classification was intended to include.

COMMENT: This list of measures to protect caves was presented by a reviewer. (1) classify caves by user level and prepare management plans for important caves; (2) install a security entrance at Lavacicle Cave Special Interest Area; (3) avoid obtrusive fencing; (4) initiate an education program to eliminate or reduce littering, graffiti, and pot hunting; and (5) protect biological communities in caves.

RESPONSE: A security door is in place at Lavacicle Cave. Standards/Guidelines in the FEIS have been extensively revised and provide direction on inventoring, planning, and managing the unique resources of each cave. They limit activities on

cave roofs and cave entrances, call for vegetative buffers around entrances, and regulate slash disposal, road construction and recreation. More specific protection is given to caves inhabited by the Townsend's big-eared bat. Standards/Guidelines also call for an information and education program to contend with the problems cited above. Studies are required to preclude inappropriate management; e.g., a gate which harms cave biota by changing the temperature, blocking access, or simply creating a disturbance. A new Special Interest Area was not considered appropriate at this time for this group of caves but could be designated at a later date.

COMMENT: Another request for a Special Interest Area was registered by a reviewer seeking to protect a stand of ancient juniper north of Sisters.

RESPONSE: Since no activities which would disturb this area are scheduled during this planning period, it was not considered necessary designate this grove.

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Wilderness

COMMENT: A reviewer declared that the Wilderness Recreation Opportunity Spectrum zones were not displayed on a map and the Plan is not specific enough about acceptable levels of use in different areas. An examination of alternative levels of use in different areas was requested.

RESPONSE: A map has been included that shows the Wilderness Recreation Opportunity Spectrum zones. Wilderness Plans for each area describe how capacity will be dealt with, particularly if over use is beginning to occur. Management will be by Limits of Acceptable Change (see Management Area 6, Chapter 4 of the Forest Plan).

COMMENT: "No mention was made of the Mt. Thielsen Wilderness," a respondent observed.

RESPONSE: A plan for the Mt. Thielsen Wilderness has been developed jointly with the Umpqua and Winema National Forests and has been included in Appendix 4 of the Forest Plan

COMMENT: "Wilderness boundaries should be adjusted so they could be located on more definable features," said a reviewer. As an example, it was suggested that the boundary near Three Creeks Lake be moved from Snow Creek and placed on a ridge to the east of Snow Creek. "A buffer should be provided between Wilderness and conflicting uses." Another reader said the DEIS did not sufficiently discuss the impacts of management activities adjacent to Wildernesses. "This should include noise impacts on Wilderness values, gas and oil drilling under Wilderness, and air quality and visual impacts from prescribed burning "

RESPONSE: Placing boundary lines on identifiable features does make the the administration of an area easier. Boundaries were placed on identifiable features when this met the intent of Congress as expressed in the Oregon Wilderness Act of 1984. While activities adjacent to Wilderness are planned to minimize disturbance, there was no provision

for buffer areas in the Wilderness Act Chapter 4 of the FEIS now includes additional information on the effects of activities on Wilderness recreation Wildernesses have been withdrawn from mineral leasing but adjacent mining activity, road construction, timber harvest, and recreation may be heard and seen from within Wilderness Standards/Guidelines and State restrictions on burning regulate air and visual quality Wilderness boundaries were set by Congress and could be changed by future legislation.

COMMENT: A reader observed that wording in the Wilderness Standards/Guidelines carries the implication that animal packing into the wilderness for the purpose of hunting is considered "necessary," while other activities, not specifically stated, are unnecessary. "The very first of the Forest management goals is to provide equal opportunity My interpretation of this goal lead to a broad definition of what is "necessary" since a broad spectrum of the populace that would like to use the wilderness are not able to do so without the services of a commercial outfitter "

RESPONSE: In the FEIS, language suggesting that animal packing by hunters is more "necessary" than the use of stock by others has been eliminated

COMMENT. A respondent said the Plan "appears biased against commercial uses" in Wilderness Llama packing and mountain climbing were given as examples of activities which were not acknowledged.

RESPONSE: Both of these activities may legitimately occur in Wildernesses Limits on commercial outfitters are imposed only to protect the resource and the quality of the Wilderness experience

COMMENT: Noting provisions for helispots in Wilderness areas, a reviewer asked about the use of this aircraft in Wilderness

RESPONSE: Helicopters are permitted in Wilderness when human life or injury is involved and in some limited cases to deal with forest fires. They are limited to these emergency situations.

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Roadless Areas

COMMENT: "Why is the Forest Service staying out of roadless areas for the first decade?" a reviewer asked, noting that Congress "decided in 1984 what was suitable for Wilderness and what was not." Failure to enter roadless areas in the first decade was described as a violation of NEPA "because none of the alternatives road the roadless areas in the first decade."

RESPONSE: Of the approximately 145,000 acres of existing roadless areas, 54,700 will remain unroaded in the Preferred Alternative. This is to provide undeveloped recreation outside of Wilderness. These areas are closed to vehicles in the summer but are open to snowmobiles in the winter. Approximately 32,600 acres will be available for winter recreation activities which include roads and trails. These areas are basically open to vehicles in the summer and winter.

In the first decade, timber harvesting has not been scheduled on 58,000 available acres because of economic efficiency, a National Forest Management Act requirement. Harvesting is not scheduled to begin until the second or third decades. Roads could be built for geothermal exploration or firewood cutting on all but the 54,700 acres. There is no requirement that roadless areas be entered in the first decade. Since it was not needed to meet the objectives of the alternatives, forcing roads into these areas in the first decade was not considered appropriate.

Because it will not immediately be linked to timber harvest, the rate of road construction in roadless areas is difficult to predict. At the end of the planning period, 10-15 years, portions of the Forest that are still roadless can be re-evaluated for Wilderness.

Visual Resource Management

Scenic Views

COMMENT: Several respondents said shelterwood harvesting should be the sole tree removal method

permitted in Retention areas. One added that harvest units should not exceed 10 acres in size.

RESPONSE: As indicated elsewhere, in response to comments about timber management, the FEIS calls for an increased emphasis on uneven-aged timber management. It will be the preferred harvesting method in Ponderosa pine and mixed conifer stands, in sensitive viewsheds, and elsewhere. There are, however, some places where small clear-cuts can be used to enhance a landscape feature, open a vista, or meet other resource and safety needs.

Shelterwood units in Retention allocations should be kept to under ten acres. This produces a relatively small scale "mosaic" effect of even-aged stands. Uneven-age management standards/guidelines also provide for shelter trees after the initial regeneration treatment wherever possible. This will result in a variety of size classes and species in the islands of reproduction.

COMMENT: "The provisions for visual quality may create unwarranted constraints on timber harvesting in future years," a reader declared. "The final plan should not contain language that would prevent achieving planned timber outputs."

RESPONSE: In Scenic View Management Areas, visual quality is the objective and timber production is a secondary benefit. Some harvest may be necessary in even the most visually sensitive areas but the primary focus will remain visual quality, not timber production.

COMMENT: "Major roads through the Forest are used for destination driving, more than sightseeing," a reviewer asserted. "What evidence suggests that visual considerations are more important along these roads than along other travel routes?"

RESPONSE: One of the premises of the Forest Service Visual Management System is that the number of viewers is critical. As a general rule, different parts of the forest are considered more visually sensitive as the number of viewers increases. All areas viewed from primary travel routes, especially roads that have been classified

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by State or other agencies as "scenic highways", have relatively large numbers of viewers. While many motorists are commuters or commercial travelers, a considerable number are traveling for pleasure and place a high premium on scenic quality. Management activities which can be seen from these major roads are normally designed to be unobtrusive. Large diameter, yellow-barked ponderosa pine trees are an important element in these landscapes, especially in foreground viewing distance zones. The Forest Service will perpetuate this character on all primary corridors. Along secondary corridors that receive substantially less traffic and are used primarily for log hauling and Forest administration, visual quality is a less critical consideration.

COMMENT: The practice of removing trees to provide views into meadows was questioned by a reviewer. "What studies have been done here to suggest that opening up vistas to meadows will not have an adverse impact to wildlife?"

RESPONSE. The wildlife biologist is a key member of the viewshed planning team. Before any meadow vistas are enhanced, the wildlife biologist is consulted. The potential effects on wildlife resources are carefully studied. If it is determined that there may be adverse effects, the vista would not be opened up. There are no general rules as to whether or not view enhancement will have an adverse effect on wildlife resources. Each meadow, and each vista enhancement project must be studied individually.

COMMENT: Forest management in areas where the Retention Visual Quality Objective has been applied was criticized by a respondent, who said: "Retention should protect the form, line, and color of the existing forest stand. If you aren't going to comply with the Visual Resource Management guidelines, then don't use the terminology."

RESPONSE: Retention requires that activities be conducted in a manner which repeats the form, line, color, and texture which are frequently found in a given landscape. Management activities should not be evident to the casual forest visitor. The

Retention objective was never intended to protect every element of an existing forest stand.

COMMENT: "The maximum visual benchmark should be assessed on the assumption that all roads and trails that are part of the transportation system should be bordered by Retention," according to one reviewer, "and all visible locales from any visited areas should be Partial Retention."

RESPONSE: The visual benchmark was based on a complete visual resource inventory of the Deschutes NF. Visual Quality Objectives range from Preservation through Maximum Modification. The visual benchmark was a total of all Forest lands in the Retention and Partial Retention inventory classifications. (Preservation applies only to designated Wilderness areas.) Many roads, trails, and visible portions of the Forest are within areas inventoried as Modification and Maximum Modification. Since we do not allocate lands to Scenic Views within these two classifications, they were not included in the benchmark acreage.

COMMENT. A respondent said the Upper Metolius should have a Retention Visual Quality Objective, adding: "A new category - Watchable Wildlife Emphasis - should also be created for riparian and similar diverse areas that are used by recreationists."

RESPONSE: The Upper Metolius was inventoried as Retention because of its unique scenic beauty and attractive riparian vegetation. Because of the amount of development which has occurred, Areas outside of campgrounds and picnic sites are required to remain essentially natural. Retention would not permit the summer homes, campgrounds, roads, trails, and other facilities that currently exist. Intensive Recreation also permits site protection such as designated roads, vehicular controls, and trails.

Watching wildlife is a popular activity along the Upper Metolius. It is provided for by current and projected allocations, Wild and Scenic River and Intensive Recreation, and standards/guidelines for riparian areas.

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COMMENT: Referring to the DEIS discussion of visual quality, a reviewer noted that powerlines and roads can reduce visual quality "Are there opportunities to use existing rights of way?"

RESPONSE: As indicated above, the first priority in locating utility lines is to use existing corridors; second priority is expansion of an existing corridor.

COMMENT: "There are significant problems in both the definition of visual management goals in the Proposed Plan and the application of visual guidelines in the field," a reader asserted.

RESPONSE: The standards/guidelines on visual quality management have been expanded and clarified. They now require that uneven-aged timber management be employed in ponderosa pine stands whenever circumstances permit. Monitoring will improve compliance with visual management goals. The visual management objectives for every Management Area are now shown on a map.

COMMENT: A reviewer said the following passage is too general for either Retention or Partial Retention:

"Insect and disease activity or catastrophic occurrences may require short-term deviation from visual objectives "

RESPONSE: Standards/Guidelines have been rewritten to clarify this matter. Short-term deviation from visual objectives are permitted only where insect and disease activity would result in the loss of large amounts of vegetation. For example, if mountain pine beetle activity is threatening large acreages of trees adjacent to a major recreation road, clearcutting may be the only silviculturally acceptable treatment to prevent a catastrophic loss. On the other hand, a mistletoe infestation in large, overstory ponderosa pine is not considered catastrophic; the removal of these larger trees would not be warranted.

COMMENT. A respondent suggested this change: "The specific guidelines for ponderosa pine in

Retention areas should be replaced with the following.

"To retain or create the overall character of yellowbark pine in open stands, the goal is to have 24 yellowbark pines of 300 years and of 30 inches diameter or greater per acre'."

RESPONSE: There would be a lack of visual variety if every acre of Retention was occupied only by old-growth trees. The natural character of ponderosa pine stands includes several size classes.

Large diameter ponderosa pine is an essential element in the characteristic landscape but we do not agree that every acre should be managed to contain a prescribed number Standards/Guidelines have been changed in the Plan to place a greater emphasis on uneven-aged management. This harvest method provides for the long-term maintenance of trees as large as 30 inches in diameter as well as smaller trees. The actual number of larger trees which are retained will be based on both visual and biological needs. The minimum standard of five large diameter trees per acre has been deleted in the Plan

COMMENT: "Increasing the growth rate of young trees should not supersede the overall goal of the yellowbark pines in Retention areas," a reviewer declared

RESPONSE: The new standards/guidelines specify thinning-out the smaller trees to promote the health and vigor of the larger trees. Thinning for a variety of size-classes is called for in uneven-aged management activities

COMMENT: One reader declared that the reference to rotation age and number of trees left should be dropped in the discussion of mixed conifer foreground categories.

RESPONSE: Standards/Guidelines have been rewritten to better describe a "desired condition" for these stands in terms of the numbers of trees and their sizes. This changes the emphasis from

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timber production to a more visually oriented objective.

COMMENT "There should be a difference between Middleground Retention and Middleground Partial Retention," a respondent observed

RESPONSE: The distinction was unnecessary in the DEIS because no land was classified as Middleground Retention. In the Final Forest Plan, several areas were allocated to Scenic Views with this Visual Quality Objective and a distinction has been made

COMMENT Only 10 percent of land in Partial Retention areas may be disturbed at any given time. A reviewer said there should be a requirement that this disturbance be widely distributed.

RESPONSE: Whenever possible, uneven-aged timber management will be practiced in Partial Retention areas. This will result in a widely distributed treatment which will not visually dominate the landscape. The "10 percent in a disturbed condition" guideline will only apply where uneven-aged management is not practical. The need for a distribution of disturbance is now reflected in the standards/guidelines.

COMMENT The Partial Retention Visual Quality Objective was proposed along the scenic portions of Black Butte, Odell Butte, and Green Ridge

RESPONSE: These areas are in a Scenic Views Management Area and have a Partial Retention or Retention Visual Quality Objective.

COMMENT: No more than 3 percent of Retention Middleground areas which can be seen should be in a disturbed condition, a reader declared, adding. "The emphasis should be on creating stands of 300 year old yellowbark pine stands of 30 inches or greater. No portions of clearcuts should be visible "

RESPONSE: The new standards/guidelines prescribe uneven-aged timber management in areas

classified as Retention Middleground. The percentage of a viewshed in "a disturbed condition" has been eliminated because partial-cut management activities will be spread over many acres. There will be very little, if any, visual disturbance when these areas are viewed as middleground.

COMMENT: "Visual Quality Objectives should not only be considered from viewpoints looking up to the Forest," said a reader, "but also viewpoints looking down from the Forest, and in particular from Wilderness "

RESPONSE: The original visual quality inventory considered viewpoints where relatively large numbers of recreationists were "invited" to higher elevation locations. This included Black Butte, Paulina Peak and Lava Butte, which are obviously sensitive viewer locations. Some major trails in Wildernesses are also sensitive. Except for some lands viewed from Black Butte, however, the Plan does not establish Visual Quality Objectives based on this perspective.

Timber Management

Departure/Non-Declining Sustained-Yield

COMMENT Many respondents were opposed to departure from non-declining flow sustained yield for lodgepole pine or any other species. Some thought it would harvest too much ponderosa pine. Road construction called for in the departure alternative, reductions in wildlife habitat, and increases in management costs were mentioned as concerns. Several readers objected to what they considered a violation of the principle of long-term sustained yield.

RESPONSE The Preferred Alternative in this FEIS no longer calls for departure.

COMMENT: Departure is all right if it is necessary to remove timber in areas that would lose value by delaying harvest.

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RESPONSE: The initial objective of the departure alternative was to harvest green lodgepole pine before it was killed by the mountain pine beetle. Since most of the lodgepole pine is now dead, however, this situation is best dealt with by salvaging it as rapidly as market conditions will allow. The effort will be to utilize the material before it deteriorates and to reduce the fire hazard. This strategy does not require a departure alternative.

COMMENT: "Manage mountain hemlock better," a respondent declared.

RESPONSE: Mountain hemlock management does need more attention. Management experience, particularly that having to do with regeneration, is limited, and demand for the species has been slight. Mature mountain hemlock is normally quite defective, making it unattractive for manufacture.

Timber Harvest Methods

COMMENT. One of the largest number of responses came from people opposed to clearcut timber harvesting. Many objected to clearcutting in stands of ponderosa pine, some in mixed conifer, and a few rejected the method entirely. Reasons included the charge that it reduces biological diversity, creates a monoculture, destroys wildlife habitat, and seriously reduces visual quality.

While these expressions are essentially opinions, which were summarized at the beginning of this appendix and considered in the Record of Decision, the issue will also be discussed here. This is because it is a major controversy and accounts for one of the most significant differences between the DEIS and FEIS.

RESPONSE: Uneven-aged management has been adopted as the preferred method of managing ponderosa pine stands in the General Forest and Scenic Views Management Areas, more than half of the Forest. It is expected that 70 percent of stands in these areas will be harvested by this method.

In all other management areas, uneven-aged management will be given equal consideration with other silvicultural methods. It will be the preferred method for managing mixed conifer stands but topography and insect and disease problems are expected to limit its application to approximately 50 percent of this timber.

COMMENT: "Are you removing the shelter cut barrier around Black Butte Ranch?" a reviewer asked.

RESPONSE: Most of these lands are in the General Forest Management Area but some of the shelterwood trees may be retained to accelerate an eventual conversion to uneven-aged management.

COMMENT: "Do not harvest on steep slopes, within 300 feet of Class I streams, or 150 feet of a Class II streams," a reviewer declared

RESPONSE: Standards/Guidelines for soil protection and riparian management require special measures in these areas. Cable or helicopter logging are commonly employed on steep slopes. Steepness, however, is only one factor considered when determining whether harvest can occur on a hillside. Soil characteristics, economic feasibility, potential damage to residual vegetation, and visual impacts are also evaluated.

All Class I and II streams on the Forest are in Streamside Management Units (SMUs). Many have been included in the nation's Wild and Scenic River System. Harvesting timber is not a management objective in these areas. Standards/Guidelines for riparian areas and Streamside Management Units describe the circumstances in which limited tree removal can occur.

COMMENT: A reviewer declared that the description of small clearcut units and multiple thinnings cast doubt on the assertion, in Appendix I of the DEIS, that even-aged management requires less roads and fewer entries than uneven-age management.

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RESPONSE: There are clearly more entries in uneven-aged management, once every 10 to 20 years, but the difference in roading is probably negligible.

Conversion Ratio

COMMENT: "Why does the Forest Service use cubic feet to calculate Culmination of Mean Annual Increment (CMAI) and board feet to calculate Allowable Sale Quantity (ASQ)?," a respondent asked.

RESPONSE: Both CMAI and ASQ are calculated in cubic feet because this is a more accurate method. ASQ is subsequently converted to board feet to accommodate the more traditional measure for timber used by the Forest Service and the timber industry.

Timber Harvest Levels

COMMENT: The potential yield for the existing timber management plan is 219.2 MMBF annually. The "current direction" alternative in the DEIS lists chargeable timber volume as 190 MMBF. This 29 MMBF under-statement of the no-action alternative distorts the comparison with other alternatives.

RESPONSE: The DEIS was supplemented to add a No Change Alternative, which called for a continuation of the 219 MMBF harvest level. This Alternative is evaluated in the FEIS.

Diversity

COMMENT: A reviewer was concerned about provisions for the dispersal of harvest units set forth in the DEIS. This passage was quoted:

Up to 58 percent of an analysis area can be harvest in a decade and still leave a 220 foot leave strip between units.

"Is this an objective, guideline, or statement of fact?," the reader asked, proposing that no more

than 30 percent of an analysis area be harvested in any one decade "to achieve diversity objectives."

RESPONSE: The 58 percent per decade projection is neither an objective or guideline. When the Forest's goal was to rapidly harvest beetle killed lodgepole pine, a study determined that 58 percent of an area could be harvested within Region Six dispersal guidelines if units were separated by a 220 foot leave strip. (This only applies on land with slopes of less than 30 percent.) As indicated in many portions of the FEIS, the Forest's objective has changed. Very few, if any, analysis areas are expected to have 58 percent timber removal in any decade.

Standards/Guidelines for biological diversity, Chapter 4 of the Final Forest Plan, include provisions for achieving diversity objectives.

Timber Stand Improvement

COMMENT: Thinning should be discontinued, a reader asserted. "It negatively affects the Culmination of Mean Annual Increment (CMAI), is expensive, and increases cumulative effects from ground disturbance."

RESPONSE: Thinning extends CMAI, produces larger trees, retains proportionately larger tree crowns, reduces mortality risk from insects and disease, develops earlier old-growth tree characteristics, produces greater quantities of harvestable material, and improves the quality and accessibility of forage. Cumulative effects from ground disturbance, when carefully controlled, are not serious enough to offset these advantages.

COMMENT: "It is a waste to take out 3 to 4 inch trees along with larger trees and then leave them lie," a reviewer declared.

RESPONSE: Thinned trees of this size have little or no commercial value. They are not attractive to firewood gatherers, particularly the more resinous ponderosa pine and true fir. Left to dry and machine crushed or cut up into smaller pieces, they have a positive affect upon soil fertility and nutrient

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transfer. They also enhance habitat for smaller wildlife species, which are important elements in the natural food chain.

Fire hazard is temporarily increased by this practice and insect attacks upon this material occasionally extends into the surrounding live trees. Both of these problems, however, are short-term risks.

Lodgepole Pine

COMMENT: A reviewer questioned the accelerated harvest of lodge pole pine called for in the Preferred Alternative "What if there is no market?"

RESPONSE: The departure harvest schedule calling for an accelerated removal of lodgepole pine has been eliminated in the Final Plan. Dead lodgepole pine will be sold at a rate that reflects market demand.

COMMENT: Noting that wildlife needs all age classes of lodgepole pine, a reviewer declared: "Proposed liquidation is a serious ecological blunder." Selective cutting was suggested to reduce the risk of beetle epidemics.

RESPONSE: The rate of lodgepole harvest has been reduced in the FEIS (see above response). "Liquidation" of the species was never intended. It is recognized that wildlife need lodgepole of all ages, living and dead. Expanses of beetle killed lodgepole, however, is of little value to wildlife. Shelterwood harvesting is being employed to reduce both vulnerability to bark beetles and the cost of reforestation.

Firewood

COMMENT: Many readers commented on the cost of firewood. Some consider it too high, others too low. The fact that firewood gatherers have to pay more for firewood than timber sale contractors do for the same material was questioned; i.e. \$7/MBF for firewood versus \$1/MBF for timber sales.

RESPONSE: The Forest now charges a \$7/MBF minimum rate for lodgepole pine timber sales, the same as for firewood. This is intended to cover the costs for program administration, road maintenance, brush disposal, and reforestation. This rate may change with increased costs or increased demands, extensive program abuses, or new economic factors.

COMMENT: A number of correspondents asked that the firewood program be taken out of the Forest's Allowable Sale Quantity (ASQ).

RESPONSE: The inventory used to develop the DEIS and Proposed Forest Plan was completed prior to the Mountain Pine beetle reaching epidemic levels. Also, an epidemic infestation was not projected in the yield tables. Therefore, the dead lodgepole presently being cut for firewood was included in the Allowable Sale Quantity (ASQ) calculations, shown in the DEIS and Proposed Forest Plan. However, when the forest stands were reinventoried, dead trees were tallied separately and not included as part of the standing inventory. As growth projections were made for the yield tables, an estimate of future mortality was also made. Therefore the existing and projected mortality was not included in the ASQ calculations shown in the Final Forest Plan. Since firewood will only be taken from dead trees, it will not now be considered part of the ASQ.

COMMENT: The State Department of Environmental Quality was one of the respondents objecting to the cost of firewood. "It is our understanding that wood cutting permit fees do not fully reflect the market value of the fiber or the cost to the Forest Service to provide the firewood to the public. This subsidy of firewood makes firewood appear to be more economical energy source than it really is. If one considers the public health costs associated with woodsmoke in urban areas of Oregon, it clearly is not appropriate to encourage the residential use of firewood through subsidy." The DEQ recommended increasing firewood cutting permit fees and contributing this additional revenue to local agencies which are attempting to mitigate the woodsmoke problem.

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RESPONSE: On the Deschutes NF, revenue from firewood cutting permits greatly helps defray the cost of administering the program. It is illegal for the Forest Service to disperse National Forest revenues to local agencies other than by means of the payments to counties from timber harvest receipts. A program such as that suggested by the DEQ would require new legislation.

Reforestation

COMMENT: "Use natural regeneration when possible," a reviewer declared.

RESPONSE: Natural regeneration is the predominate reforestation method used with lodgepole pine, true firs, and mountain hemlock. It is not as dependable with ponderosa pine. Because of inconsistent cone production, species replacement cannot always be assured. Natural regeneration will be common, however, in ponderosa stands where uneven-aged management occurs.

COMMENT: "Artificial regeneration drives up the cost of timber sales," according to a respondent, who added: "Planting ponderosa pine is a waste of money and reduces genetic diversity."

RESPONSE: In some areas planting is the only way reforestation can be assured. Although it is more costly than natural regeneration, planting ponderosa pine has consistently been shown to result in a positive net worth. The seed procurement program retains genetic diversity for given seed zones.

Insect and Disease

COMMENT: A reader was concerned about the impact of the mountain pine beetle epidemic on ponderosa pine. "That is present condition of old growth pine?"

RESPONSE: Increasing numbers of ponderosa pine, including old-growth, have been killed by beetles in recent years. Beetles are also moving into large stands of young (approximately 65 year

old) ponderosa pine. A major thinning program is underway in these areas to improve tree vigor, which should make them less vulnerable to the beetles.

COMMENT: "How will the various alternatives affect potential future insect and disease problems?" a respondent inquired.

RESPONSE: All Alternatives include provisions for responding to catastrophic insect or disease conditions. In terms of the ability to contend with future insect and disease problems, they are indistinguishable.

COMMENT: "Your definition of 'catastrophic event' does not comply with NFMA," a reader declared, adding: "poor economic criteria" were used.

RESPONSE: The National Forest Management Act (NFMA) does not define "catastrophic conditions". On this Forest, certain types of stands are considered to be in a catastrophic condition if more than 30 percent of the trees have been killed or if the stand is growing at less than 70 percent of its normal rate. These criteria are not economic; they are a measure of the impact of conditions on the sustained yield of timber on the Forest.

Tree Improvement

COMMENT: "The Forest should justify rejection of the conservative 10 percent genetic gain figure," a reviewer declared, "especially in light of the genetic improvement efforts occurring on the Deschutes today."

RESPONSE: Increases in growth attributable to the genetic improvement program are 8.67 percent for ponderosa pine, 1.73 percent for lodgepole pine, and 8.67 for mixed conifer. The small gain for lodgepole pine is due to the fact that 80 percent of the lodgepole pine stands will be regenerated naturally by seed tree or shelterwood cutting. The 8.67 gain for ponderosa pine and mixed conifer is less than the 10 percent projection in the Douglas-fir

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region because of the relative recent establishment of the program on this Forest. Since seed orchards will not be producing seedlings for 20 to 40 years, increases in growth can only be claimed for, at best, 13 of the next 15 decades.

COMMENT: Another challenge to the less than 10 percent projection was based on the claim that gains from using phenotypically selected "plus" tree seeds would achieve a greater than 8.7 percent increase in growth.

RESPONSE: "Plus" tree seed collection is inadequate to meet the needs of reforestation. Most of the Forest's tree seed supply is derived from general seed collections.

COMMENT: One reader thought the projected increase was too high. "The yield estimate for genetics should be reduced because we have planted thousands of acres with uncertified trees and because we do not have any genetic information for establishing our present breeding zones.

RESPONSE. Forest silviculturalists are convinced the reduction from 10 percent sufficiently takes these circumstances into account

Use of Fertilizer

COMMENT: "Fertilizer should be used as an option in some timber prescriptions," said a respondent. "Data show 50 percent growth increases in lodgepole and ponderosa pine and that it is not any more expensive than precommercial thinning

RESPONSE: Fertilization is not considered a useful silvicultural tool on this Forest because of porous soils and the dry climate. In any case, it would not be a substitute for precommercial thinning. The purpose of thinning is not to increase total fiber production but to grow large trees as rapidly as possible.

Wildlife and Fish Management

Fisheries

COMMENT: A number of respondents felt that insufficient attention was paid to fish and fish habitat in the DEIS. The longstanding fame of the Deschutes NF fishery was mentioned. "We found no evidence in the Plan for projects to exclude cattle from important riparian areas of the Forest," one noted.

RESPONSE: Discussion of the fishery has been considerably expanded in the FEIS. A fish habitat inventory is being conducted, a habitat improvement program is being developed and new standards/guidelines for riparian areas added

COMMENT: A reviewer stressed the importance of cooperation with other agencies in fish stocking, trapping, and providing winter range for mule deer

RESPONSE: The Forest coordinates with Oregon Department of Fish and Wildlife on fish stocking and has discussed beaver trapping in areas where beaver is scarce. The Forest, the Bureau of Land Management, and ODFW coordinate in providing winter graze for deer.

Old Growth

COMMENT: A number of respondents proposed specific portions of the Forest where they believe old-growth should remain

RESPONSE: The distribution and specific locations of Old-Growth Management Areas were based upon the habitat needs of dependent wildlife species. The size of the stands and their distribution were both major considerations. Other site-specific areas will be managed according to other emphasis. Old growth will be retained in some and will not in others

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COMMENT: A reviewer wondered how more old growth could be retained in Alternative H than Alternative G when the harvest level in the former is higher

RESPONSE: Alternative G will provide more old growth than Alternative H.

COMMENT: "Can damage or harassment from off-highway vehicles in old growth be proven?", a respondent asked.

RESPONSE: Research has shown that old growth associated species like the northern goshawk are very sensitive to human disturbance, especially during the nesting period.

COMMENT: Plan has no map showing old-growth allocations.

RESPONSE. The FEIS contains a map of Old-Growth Management Areas.

COMMENT: A reader asked these two questions: "(1) What proportion of Old-Growth Management Areas will actually be old growth at any one time? (2) What proportion is currently old growth?" Another wished to know whether these areas will be managed or left undisturbed.

RESPONSE: Standards/Guidelines preclude timber management in Old-Growth Management Areas until research indicates that the structure and function of old-growth forest can be artificially created or maintained. With the exception of the Lava Pass and Glaze Old-Growth Management Areas, there would be no tree removal during this planning period. (The option to remove trees in these two areas was retained to permit adjustments in species composition)

It is estimated that approximately 74 percent of the land area within Old-Growth Management Areas is currently mature or overmature forest. The proportion of "old growth" within this mature/overmature condition is difficult to establish. The estimate, derived from aerial photography interpre-

tations, was imprecise and definitions of old growth vary.

COMMENT: A reviewer said "specific unique qualities, such as ecotype representations," should have been considered

RESPONSE: Old growth areas were mapped on the Forest based on ecoclass diversity during the late 1970s. The Draft Forest Plan assigned Old Growth acres by constraining the Forplan Model to set aside certain percentages of each working group for each alternative. These acres were not site specific. In the Final, Foreplan deals with site specific Old Growth Management Areas that are based on the original old growth mapping

COMMENT: One reader objected to the wording of the Old Growth goal.

RESPONSE The goal statement has been revised

COMMENT: Deer and elk will have inadequate hiding and thermal cover because of the harvest of old growth, a reviewer declared

RESPONSE: Hiding and thermal cover are provided for deer and elk not only in old growth areas, but also in timber stands managed to meet big game objectives. Standards/Guidelines will ensure that hiding cover is available both in deer management areas and General Forest and thermal cover is available in deer habitat

COMMENT: "There are no old-growth stands designated outside of commercial forest land," a reader commented, "so there will be inadequate old growth distribution to maintain old-growth dependent species."

RESPONSE. Old growth isn't designated in areas such as Wilderness and Dispersed Recreation because no timber harvest will occur there. Thus, old-growth stands will occur outside of as well as within commercial timber lands

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COMMENT: "Preserve ponderosa pine in areas with no roads at present," a reviewer said.

RESPONSE: During the period covered by this Forest Plan (10 to 15 years), timber harvest is not planned in areas which are currently unroaded

COMMENT: This reader also doubted that old growth in 12 percent of the Forest would maintain current populations of old-growth dependent species

RESPONSE: The Forest is required to provide for "viable populations" of wildlife species which, in some instances, could be less than current populations.

COMMENT: "No provision is made for retention of old-growth habitat in areas which are logged," a reader declared.

RESPONSE: The Preferred Alternative provides for stands of old growth that are located in areas that will be managed for timber production.

COMMENT: One reader asked for the data which indicates that the old-growth program will be adequate to maintain a diverse old-growth community structure and assorted old-growth dependent plant and animal species.

RESPONSE: No scientific data is available. Plant and animal diversity can be maintained in old-growth areas in the best professional judgement of wildlife biologists. Research in regards to this situation is in progress.

COMMENT: Habitat requirements of old-growth dependent species are not indicated in the Draft EIS, a reviewer declared.

RESPONSE: Published data on wildlife habitat relationships of species occurring on the Forest are available (See Wildlife Habitat Relationships of South Central Oregon, 1976 and Wildlife Habitats in Managed Forests, the Blue Mountains of Oregon and Washington, 1979).

COMMENT: The comparisons of the amount of old growth maintained by alternative is misleading

RESPONSE: The plan only displays areas specifically allocated to Old Growth Management. They provide the distribution and habitat requirements of mature/old-growth dependent wildlife species. Additional old growth is provided in a number of other allocations and the total for each alternative is indicated in Chapter 2 of the FEIS, Comparison of Alternatives.

Wildlife (General)

COMMENT: "The indicator species concept is not a good indicator of the health of the Forest's habitat types," a reviewer said.

RESPONSE: The indicator species concept was developed and mandated in regulations for implementing the National Forest Management Act.

COMMENT: A reader proposed greater reliance on techniques which can mitigate the impact of roads on wildlife

RESPONSE: Many of these techniques are being incorporated into the Forest travel plans and District road management planning. Vehicular harassment is one of the factors taken into account in determining whether an area can provide habitat for deer and elk. A reduction of open roads increases effectiveness.

COMMENT: There were a number of expressions of concern about wildlife species not provided for by a specifically designated Management Area. Included were the goshawk, great grey owl, great horned owls, long-eared owl, cooper's hawk, sharp-shinned hawk, red-tailed hawk, elk, antelope, grouse, peregrine falcon, wolverine, great blue heron, wild turkey, pine marten, white-headed woodpeckers, 3-toed woodpeckers, and Townsend's big-eared and the silver-haired bats. One reader asked for a map showing the distribu-

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tion of black bear, antelope, and mountain lions and an assessment of the impact of timber harvest on them.

RESPONSE: The indicator species approach to wildlife management uses a single species with particular habitat requirements to stand for other species with the same requirements. All are accommodated when this habitat is preserved or created. Most of the species listed above have the same requirements as one or another of the indicators. Management Areas providing for an indicator species is, in fact, a Management Area for all associated species. There are also Standards/Guidelines which address the special needs of individual species.

Some habitat for great grey owls will occur in lodgepole pine stands where there are meadows. Measures providing for goshawks were modified in the FEIS to increase suitable nesting habitat. A significant decrease in the goshawk population is expected, however, when trees killed by the bark beetle fall.

Goshawk, Cooper's hawk, and sharp-shinned hawk nest sites and pine marten will be protected within Management Areas emphasizing Old Growth, Wilderness, Dispersed Recreation, Research Natural Areas, Spotted Owls, the Bend Municipal Watershed, Winter Recreation, the Oregon Cascades Recreation Area, and wildlife management. There are no standards/guidelines for great horned owls, and long-eared owls. Cavity nesting hawks and owls will be maintained at 60 percent of maximum population potential.

Standards/Guidelines for elk management were significantly expanded. The requirements of other game species, such as antelope, wild turkey, and grouse, will be taken into account in project planning when they are found in a project area.

When the nesting sites of peregrine falcons, redtail hawk, and great gray owls are found they will be maintained. The vegetative character of great blue herons rookeries and their nest trees will be protected. In managed forestland, snags will be maintained to provide for 60 percent of the potential population levels of woodpeckers. Naturally occurring snags may diminish in numbers below

the 60 percent level where mountain pine beetle killed trees have fallen down, until regeneration can provide snags.

If a wolverine sighting is determined to be authentic, an environmental analysis will be conducted to decide whether the site is essential habitat requiring special designation.

Habitat for the northern waterthrush will be provided by riparian area standards/guidelines, which have been revised and expanded in the FEIS.

Standards/Guidelines afford protection to Townsend's big-eared bats by: (1) restricting unacceptable human disturbance during winter periods; (2) restricting public knowledge of these locations; (3) protecting forest vegetation at the entrance of important caves; and (4) habitat enhancement. The silver-haired bat is a cavity nester and will be maintained by the Forest's snag policy.

Information about the distribution of bears, antelope, and mountain lions is available at Ranger District offices. Timber harvest has no effect on antelope because they occupy treeless portions of the Forest. Its effect on lions is indirect. They prey on mule deer, which can benefit from timber harvest. Bears can be adversely affected when berry growing shrubs are replaced by grasses by timber harvest and hiding cover is removed.

COMMENT: "Funding for timber harvest should be contingent upon funding for wildlife habitat improvement," said a reviewer, "so if timber harvests increase then wildlife habitat projects also increase proportionately."

RESPONSE: The Forest is developing a Wildlife Funding Program Action Plan, which is not tied to the timber harvest associated K-V funding. It will use appropriated funds for habitat improvement, particularly in lodgepole pine areas.

COMMENT: "The Forest should make every effort to determine the existing prey base for eagles and the competition between eagles and osprey on this prey base," a commentator submitted.

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RESPONSE: Recent studies on the Forest have determined food habits of bald eagles and ospreys and the level of competition between the two species.

COMMENT: The Forest Service should address deer migration corridors between summer and winter ranges in future land management plans, a reader stated.

RESPONSE: This is a sound suggestion and such studies will be conducted.

COMMENT: Evaluation and report periods called for in the monitoring program for the bald eagle, spotted owl, osprey, northern goshawk, and woodpeckers are too far apart, according to a respondent. Dangerous population trends may not be documented until they have reached a critical level.

RESPONSE: The monitoring program was revised and expanded in the FEIS. Monitoring worksheets now provide the following evaluation and report periods in the Preferred Alternative:

1. Northern goshawk - Examine 5 percent of habitat areas every year to sample for maintenance of habitat suitability. Report annually. Review all project plans to determine if standards/guidelines have been applied appropriately.

2. Bald eagle - Annual interagency survey of nest sites. Review of project plan to ensure compliance with standards/guidelines. Field survey of potential sites. Review of trends every five years.

3. Osprey - Annual review of project plans to determine if standards/guidelines are being implemented. Population sample every two years. Review of trends every five years.

4. Spotted owl - Population survey every year. Nesting capacity every two years. Review of trends every five years.

5. Three-toed woodpeckers - Population sample every other year. Review of trends every ten years.

COMMENT: The decrease in osprey habitat in the Preferred Alternative was not acceptable to several reviewers. "Every effort should be made to maintain or even increase the population," said one.

RESPONSE: The Preferred Alternative now provides for protection of all existing nest sites. Many nests are lost to natural causes, however, and an artificial nesting structure program may be required.

COMMENT: The discussion of wildlife in General Forest is confined to deer and elk, a respondent complained. "Even General Forest should be managed for multiple use."

RESPONSE: In the Preferred Alternative, habitat for species using dead and downed trees will be provided in General Forest. Osprey, golden eagle, and great gray owl nest sites will be maintained where they are found. Great blue heron rookeries will be protected. There are provisions to manage lodgepole pine, mixed conifer, or mountain hemlock forest to provide interconnecting forested corridors for pine marten. Caves where Townsend's big-eared bats occur will be protected. Fuel concentrations will remain within many logged areas to provide habitat components for wildlife.

COMMENT: "The Deschutes National Forest has not provided an adequate program for nongame wildlife species," a correspondent said.

RESPONSE: Habitat will be maintained for viable populations of all vertebrate species in the Forest.

COMMENT: A need for inventories of wildlife species and their habitat requirements was expressed.

RESPONSE: Inventories and studies of wildlife habitat relationships of vertebrate species on the Forest are available at the Forest Supervisors Office in Bend, Oregon.

COMMENT: The Forest Service claim that timber management will impact osprey is unsupported, a

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respondent said, adding "fish prey base is limiting, not nest sites because platforms can be provided."

RESPONSE: An artificial nesting structure program may be required to provide nest sites. The Forest Service works cooperatively with the State on trash fish control and we can develop guidelines for prey base retention.

BIG GAME

COMMENT: A reader was concerned about a herd of approximately 60 elk that winters in the Benham Falls area.

RESPONSE: These elk will be managed according to standards/guidelines established in Chapter 4 of the Forest Plan. The extent and importance of the Ryan Ranch elk range will be determined through the interdisciplinary process at the project level. The Eastside Elk Habitat Capability Model will be used.

COMMENT: Wildlife direction for General Forest emphasizes hiding cover, a reviewer observed. "Forage and thermal cover are just as important, if not more important, than hiding cover."

RESPONSE: Standards/Guidelines include provisions for deer thermal cover. Timber harvest will create forage.

COMMENT: "Elk and deer must be provided with habitat areas that will be free of logging activities," a respondent declared.

RESPONSE: Habitat for elk and deer will be available in both areas where harvest occurs and lands where it will not. Timber harvest creates forage for big game.

COMMENT: A reader was not satisfied with the deer population projected in the Preferred Alternative and said "Tradeoffs between resources need to be recognized."

RESPONSE: The Oregon Department of Fish and Wildlife has developed population objectives for deer on the Forest and the Forest Service works toward providing habitat to meet them. This effort involves. 1) manipulation of timber stands for thermal and hiding cover; 2) use of prescribed fire and mechanical methods to improve forage condition; and 3) management of roads to increase habitat effectiveness. Tradeoffs between big game and other resources are carefully evaluated.

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COMMENT: The State suggested that the Forest use a five year average population for deer instead of the 1984 population.

RESPONSE: This suggestion was accepted.

COMMENT: "It seems imprudent to analyze the elk situation in the Deschutes without coordinating the elk management plan in the Willamette National Forest, where most of our elk winter," a reviewer declared. Planning for elk should be coordinated with the Willamette, Ochoco, Winema, and Fremont National Forests.

RESPONSE: Coordination is occurring now. We are jointly monitoring elk population distribution and habitat use with radio-telemetered animals. Our population objective is low enough that the influence of management on adjacent Forests is probably low. We are working together with ODFW and adjacent Forests on elk management coordination. Deschutes elk do not mix with Ochoco elk. Umpqua NF elk do mix with the Deschutes group and are included in the coordination effort along with the Willamette, Winema and Fremont Forests.

COMMENT: Several hunting groups were unsatisfied with provisions for providing elk habitat. The Oregon Hunting Association said a herd of 2,500 elk could be accommodated.

RESPONSE: Standards/Guidelines for elk management have been substantially revised, reflecting public reaction to the DEIS. It is expected that the Preferred Alternative will eventually support an elk population of 1,500 animals.

COMMENT: Conflict between roads and wildlife is a major issue, according to the State Department of Fish and Wildlife. A comprehensive road management plan was requested.

RESPONSE: New standards/guidelines impose road density requirements to reduce conflict. Deer and elk habitat simulation models, which will soon be available, will permit more accurate assessment of impacts of roads on elk habitat.

Winter Range

COMMENT: "Crown closure should be more than 40 percent," said a reader, who believes that 70 to 80 percent is necessary to provide protection from winter weather and snow. "This cover is elemental for survival."

RESPONSE: The 70 to 80 percent crown closure is optimal for winter range. It is also rare, even in portions of this Forest which have not been managed. Implementation of the Preferred Alternative is expected to provide an average of 40 percent, which means there will be more in some portions of the winter range.

COMMENT: "Alternatives vary significantly on carrying capacity for deer," a reviewer observed. "Are differences a result of harvesting on summer range or habitat improvement on winter range?"

RESPONSE: Difference in carrying capacity are primarily the result of harvesting on summer range, although winter range harvesting can have some effect. Harvesting on winter range is limited by the need to retain thermal cover.

COMMENT: Thermal cover on deer winter range should be 50 percent not 40 percent. Timber production is too high in deer management areas. If cover cannot be maintained at 50 percent the area should not be included in deer management areas. Visual management in deer areas should meet deer habitat requirement.

RESPONSE: Much of the deer winter range is dominated by shrubs (sagebrush and bitterbrush). These areas will never support a stand of conifers which could qualify under a strict definition of thermal cover. Where these stands do exist, the Forest will manage them to retain thermal cover in an optimal mosaic with forage areas. Very little timber harvest is projected in winter range.

In General Forest, deer habitat management is part of timber management. Timber production and maintenance of deer habitat quality require compromises. Habitat improvement can be com-

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patible with visual quality objectives with few modifications or by using vegetative screens.

Wildlife Diversity

COMMENT: The diversity of both forest and nonforest communities needs to be monitored, a respondent said.

RESPONSE. The diversity of vegetation on the Forest will be monitored. Diversity is also protected by the monitoring of indicator species and sensitive plants and animals.

COMMENT: U.S.C 1604(G)(3)(13) requires diversity of plant and animal communities. 36 CFR 219.27(G) reductions in diversity may be prescribed only to meet multiple-use objectives. All alternatives destroy large quantities of old growth. Alternative E reduces old growth by 24 percent which would prevent Forest from meeting diversity criteria.

RESPONSE: The Regional minimum management requirements contain criteria required in selecting Old-growth Management Areas. These Regional criteria, which have been followed, emphasize biological requirements needed to maintain diversity.

COMMENT: "Hardwoods and minor conifer species are not addressed in the plan," a respondent said.

RESPONSE: Provisions for managing land in riparian areas have been expanded in the FEIS. They call for the retention of hardwoods and minor conifer species.

COMMENT: This statement in the DEIS was questioned: "The higher the harvest levels would be in an alternative, the sooner diversity will occur."

RESPONSE: The DEIS statement is true as far as it went. Timber harvest will enhance ecosystem diversity in areas of predominately mature/

overmature forest. However, there is a threshold beyond which additional timber harvest diminishes diversity by removing the mature/overmature successional stages of forest. The statement referred to the first phase.

Wildlife Habitat

COMMENT: "No provision is made for retention of snags in areas which are logged," a reader declared.

RESPONSE: Enough snags to provide habitat for 40 percent of the maximum population of cavity nesters will be retained in uneven-age management in the Preferred Alternative, and 60% or more in other areas of the Forest.

COMMENT: "The plan should display effects of bald eagles and osprey management area prescriptions on timber harvest," a reader said.

RESPONSE: The effects of managing portions of the Forest for wildlife are evaluated at several stages in the planning process. Since the eagle is an endangered species, tradeoffs associated with its management are not negotiable and were not quantified. There is general discussion of tradeoffs in Chapter 2 and Appendix B of the FEIS.

COMMENT. The Oregon Department of Fish and Wildlife recommended leaving all dead and down logs in timber harvest area.

RESPONSE: In some areas it is possible to leave all dead and down logs. To reduce the potential of catastrophic fire, however, the fuel loads in many harvest units must be reduced.

Snag-Dependent Wildlife Species

COMMENT: A reviewer "strongly disagreed" with the 10 to 12 inch minimum size for cavity nester leave trees and proposed a 16 inch average.

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RESPONSE: Minimum size of snags is based on use needs of various cavity nesters. Larger snags are left when they are available. Green trees of the 10 to 12-inch size class will eventually grow into the larger size and snags needed by some cavity nesters. Standards/Guidelines requiring cover for big game will also assist

COMMENT: "Sixty percent maximum population potential of cavity nesters is inadequate because of past management practices," a respondent declared.

RESPONSE: During the short term, the Forest may fall below the 60 percent level because of past management measures. In the long term, replacement snags should make it possible to provide the appropriate habitat

COMMENT: A respondent asked for an inventory of snag densities "to determine which areas of the Forest may be below the 60 percent level today."

RESPONSE: The new timber inventory recorded snags on the plots that were measured and this information could be extrapolated to various sub-components of the Forest.

Management Requirements (MRs)

COMMENT: A reviewer questioned the imposition of management requirements which do not vary between alternatives.

RESPONSE: The management requirements were developed to comply with the National Forest Management Act. The use of a single set of requirements was explained in a Supplement to the DEIS, which has been incorporated into this document.

Spotted Owl Management

COMMENT: Forest management is inadequate to maintain habitat for the spotted owl, according to a respondent.

RESPONSE: Nesting areas (at least 1,500 acres in size) for 14 pairs of spotted owls are provided in the Preferred Alternative. There will be no timber harvest in these areas during this planning period. As more information is gained about spotted owls and their habitat requirements, this program can be modified.

COMMENT: "Spotted owls are adaptable to conditions other than old growth," a reader asserted.

RESPONSE: While instances of owls nesting in second growth stands have been observed, most scientists agree that an old-growth stand structure is preferred. It reduces invasion by predators, such as goshawks and great horned owls, provides thermal cover to buffer changes in air temperature, and supports a prey base for feeding

COMMENT: "The Forest projects some timber harvest in Spotted Owl Management Areas," a respondent said.

RESPONSE: The possibility of managing larger spotted owl areas with long rotations was considered but not implemented. Timber harvest will not occur within spotted owl management areas

T & E Plants and Animals

COMMENT: A reviewer said it was unclear whether Sensitive plant species are considered "Listed" in the Standards and Guidelines

RESPONSE: They are and this is stated more clearly in the Final Forest Plan.

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COMMENT "The Deschutes National Forest should develop species management guide for *Botrychium pumicola* detailing management needs and protection strategy," a respondent declared.

RESPONSE: This species management and monitoring plan is in preparation.

COMMENT: Standards/Guidelines for Endangered, Threatened, or Sensitive plants are inadequate," a reviewer said, adding "onsite searches by a competent field biologist for ground-disturbing activity must be required rather than depending on office records and data only." Another reviewer asked for a comprehensive survey of the Forest's botany by trained botanists.

RESPONSE: Standards/Guidelines do require field-searches where these plants are known to exist or are suspected. Further surveys for sensitive plants are planned to determine distribution of species across the entire Forest. It is impractical to field-survey each project site if there is no reason to suspect the presence of sensitive species. Standards/Guidelines now require botanical surveys by trained botanists.

COMMENT. There should be consultation with the state when projects may affect plant or animal species listed by the state, a reviewer declared.

RESPONSE The Forest consults with the Oregon Department of Fish and Wildlife when any project could affect species listed by the state.

COMMENT: A list of plant communities (eco-classes) and their present condition should be published in the FEIS, a correspondent said

RESPONSE A list of plant communities (eco-classes) is available in a separate Forest Service publication. Specific information concerning the current condition of each eco-class is not available for upland forested eco-classes. In general, however, most are in late-seral or climax ecological condition. Riparian plant communities have recently been described in detail for Area 4 National Forests by Kovalchik.

COMMENT: Listing of sensitive plants in FEIS should include the degree of "threat" designation for each species, according to a reviewer.

RESPONSE: Information about the vulnerability of sensitive plant species is available to project planners. Because circumstances and information frequently change, it was not included in the FEIS

Public Comment/Opinions

The following comments and responses are those which were determined to be opinions not "providing factual information, professional opinion, or informed judgement germane to the action being proposed (see Forest Service Handbook 1909.15). If part of a comment was considered substantive, the comment appears, all or in part, in this and the preceding section.

Alternatives

COMMENT: Alternative E - According to literature which I have read, the Forest Service preferred alternative would not be a program which would be conducive to strong business or future

RESPONSE: Alternative E, as presented in the DEIS, was designed to maintain present harvest levels of ponderosa pine and rapidly harvest the lodgepole pine which has been killed by the mountain pine beetle. As such, it attempts to mitigate short term impacts on the local economy

COMMENT Alternative G - This alternative is the antithesis of Alternative C, and may also be the result of FORPLAN checking out boundary conditions in its program. This is a conservationist's dream, but with its impact on employment and low present net value, it is unrealistic to expect this alternative to achieve consensus. From a purely selfish point of view, this would be my first choice. However, I recognize the need to have a multiple-use forest that can be utilized giving equal weight to economic and recreational uses

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RESPONSE: Alternative G was designed to emphasize amenity values while Alternative C was designed to emphasize market values. These two alternatives represent the opposite ends of the range of alternatives presented in the DEIS.

I believe areas designated for "intensive recreation" and "dispersed recreation" should remain in the scheduled timber harvest category. The best way to ensure the long-term ability of these areas to provide quality recreation is to manage them on a scheduled basis.

Jobs/Income/Economics

COMMENT. Concern was that there may have been a significant cut in the economic value ascribed to visitor days/tourism. Our local economy is becoming more linked to the recreation industry. Not only do our tourists spend a considerable amount of money in this area, the amount seems to be increasing every year. The rate of this increase could be crucial in determining the present net value of the forest in an undeveloped state. An impartial and accurate value of visitor days is extremely important. It was felt that recreation values were consistently underestimated and that if recreation values are refigured, a new array of alternatives might result which depicted recreation more favorably.

It was felt that the USFS would have to change its management strategies for timber and the forest as a whole and that the current lifestyles of people involved in forest products production and export is artificially high (as based on timber alone) and can be maintained for only short periods. Some felt that the long term economic future for Oregon lies in attracting tourists and recreational users, including those who are interested in wilderness.

This concern was that the preferred alternative altered the sale of lodgepole and ponderosa pine timber types such that the anticipated revenue to Klamath county will be greatly reduced

RESPONSE: An effort was made in the DEIS preferred alternative to maintain historical ponderosa pine harvest levels while simultaneously

removing the dead and dying lodgepole pine. The most current timber inventory data indicates a significant reduction in available ponderosa pine volume on the Deschutes NF. The final preferred alternative addresses the issue of reduced ponderosa harvest levels and the insuing effects, including returns to counties.

COMMENT: The economic gains from timber harvests must be weighed realistically against resource and environmental costs. The forest should be managed for sustainability, biological diversity, and human well-being, not for the exclusive benefit of lumber companies. Recreation and wilderness will not support our economy.

RESPONSE: The economic well being of the local area is dependent upon all existing industries as well as future growth and influx of new industry. The structure of the local economy will change as supply and demand for all resources changes. It is necessary in the planning process to examine the effects on all resource related sectors of the economy.

COMMENT: Looking back at the forest record since 1980, the ponderosa pine availability at the market place has been short of (the amount) proposed in the plan. It has tended to run up the price of stumpage as any shortage would. If we allow this trend to continue we will be back at the price level that caused the buy-back procedure to become necessary and an expensive added burden to your timber management people.

RESPONSE: The FEIS is based on the most recent timber inventory. The results indicate a significant reduction in the total volume of ponderosa pine over estimates made in the past. It is not biologically possible to sustain historical ponderosa sale levels indefinitely in the future. Adjustments can be made to ease the impact of the proposed reductions, but inevitably, ponderosa pine supply is reduced.

COMMENT: Many felt that the proposed forest plan would result in a decrease in receipts and thus a decrease in the amount of money returned to the counties for schools and roads and that if

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the amount of money returned to the county decreased that personal property taxes would increase.

RESPONSE. Any decrease in harvest levels or decline in stumpage prices will have an effect on county receipts. The alternatives examined included ones which would increase as well as decrease from present harvest levels.

COMMENT: It was questioned rather local planning was consistent with greater emphasis on recreation in the proposed Deschutes National Forest plan

RESPONSE: Proposed expansions in motel and resorts are based on a steady and significant increase in recreation/tourism over the next several years.

Economics in General

COMMENT: There was a concern that holding ponderosa harvest allotments down would drive the stumpage prices up again and that the Deschutes National Forest might force the businesses associated with wood products into another economic recession. There was a desire to select an alternative which had a positive economic impact on our local area both in the short and long run. They stated that the forest products industry is still the backbone for employment and income locally. There was concern that reduced ponderosa pine levels would have a devastating effect on central Oregon economy. Many wanted the ponderosa pine levels to be maintained at 130 MMBF annually.

RESPONSE: An alternative has been examined which local industry feels is desirable and commensurate with the Forest's ability to sustain that harvest level indefinitely. Refer to Chapter 2 of the FEIS for a discussion of this alternative.

COMMENT. *Non-priced outputs such as recreation, and wildlife are given values in the analysis. These values are derived from the 1985 RPA Program and are based upon the "willingness-to-pay"*

concept. This concept has some validity but must be used properly or else the results derived may be incorrect.

RESPONSE: We agree that the willingness-to-pay concept involves some uncertainty in valuing resources. To help alleviate the kinds of problems that can arise from driving economic analysis with these values, criteria in addition to economics were employed in developing alternatives and selecting a preferred.

COMMENT: The Forest grows approximately 140 MMBF of ponderosa pine each year. If we have an allowable cut of 120 million board feet each year, this will allow our forest to rebuild itself and grow yearly. This could be harvested year after year from now on. This is needed to sustain the economic growth of central Oregon. The allowable cut needs to be up around 120 MMBF, to be able to provide adequate funds for schools and county improvements. Last year, the Deschutes National Forest paid \$8.2 million dollars to counties and school districts. \$2 million went to our schools. We can't afford a loss or a significant decrease in these funds. Many believed that the Forest Service should select an alternative which maintained the jobs, receipts returned to the counties by the selection of the Central Oregon Alternative. Local governments will receive 55 % less revenue in terms of gross receipts under the Forest's Preferred Alternative E compared to the current direction Alternative A.

RESPONSE: The FEIS has incorporated new timber inventory data which indicates that these levels of production are not sustainable over time. Alternative C was developed to address these issues.

Receipts to the Forest Service/Federal Government

COMMENT. *The commentor believed the Forest Service must be a profitable operation. One solution would be to set your minimum bids at more realistic rates and then to set the rates for timber to be*

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removed on a yearly basis rather than on a sale-by-sale basis.

RESPONSE: Revisions to timber sale contracts have been made in last few years to allow for price adjustments and time frames to help deal with changing market conditions. The majority of all timber sales sell for far more than the minimum bid rates. Appraised rates are established based on current values and estimated extraction costs. Minimum rates come into play if the appraised value is negative or very low. The USFS will not sell stumpage below those specified minimum rates. It is the competitive effect of the stumpage market which influences prices above the appraised rates.

COMMENT: The greatest economic value for our area lies in preserving the scenic, recreational and wildlife qualities of the area. These far exceed the short term exploitation of the forest for economic gain for a few corporation and government interests. We must maintain the aesthetic and recreational qualities of the forest. Others think that in the long range a healthy utilization of the main money source, the ponderosa pine, needs to continue as the most important priority. Still others commented that all resource value of the forest should be managed for the long run yield. Other comments suggested that the recreational and industrial uses of the forest have coexisted together in relative harmony in the past and with the proper forest management practices this should continue into the future.

RESPONSE: The range of alternatives developed in the EIS are intended to look at these different views and uses of the National Forest

Forest Coordination Efforts

COMMENT: There seems to be an effort to limit the uses allowed on the various parts of the forest. A quick calculation shows that roughly 1/3 of the forest is reserved from timber harvest with only one alternative as low as 18%. Has the Forest Service abandoned the concept of "Multiple use"

and moved toward "dominant use"? Conflicts in forest use seem to be stressed, not harvest strategies which maintain the current forest character. The concept of "multiple use" on all forest types except of course the 11% in wilderness should be practiced

RESPONSE: Multiple use is practiced on all forest types and in all management areas, however not all areas have the capability to accommodate all resource, ie not all lands are suitable for timber production. Management areas tend to emphasize certain uses but not to the exclusion of other uses. Not all resources uses are mutually exclusive, however some are.

COMMENT: At least for the foreseeable future, all federal agencies must face the grim reality of funding cuts. Any alternative which is adopted must be realistic as to the budget outlook.

RESPONSE: Each Alternative considered in the DEIS meets laws and regulations governing the Forest Service and is attainable. The Forest Service funding process requires the Forest to request funds to finance the alternative selected to become the Forest Plan. It is up to Congress and the Administration to make the decision on how much or to what level to allocate funds.

Volunteers

COMMENT: I believe we need to take advantage of these youth groups that want to get out and help make new camping areas, trails and such. We need to encourage these kids today for they are our leaders of tomorrow.

Promote volunteer assistance in helping to keep the trails clean and clear, remembering of course, that the volunteers work for a living at other jobs too, as well as try to clear trails.

RESPONSE: The Deschutes does now and will continue to take advantage of volunteers and youth groups to accomplish much needed work on the Forest.

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Riparian Management

COMMENT: Alternative "E" - Riparian Management. The significance of streamside vegetation to wildlife can not be overstated. Most big game biologists stress the importance of riparian habitat as fawning and calving areas for deer and elk. Additionally, vital habitat for both water fowl and non-game species are contained here. Oregon hunters association recommends that all perennial streams within the forest be managed to optimize riparian habitat. This may mean exclusion of logging activities in stream corridors, and exclusion of grazing activity.

RESPONSE. Standards/Guidelines for the management of riparian Habitat can be found in Chapter 4 of the Forest Plan.

Fire and Air Quality

COMMENT. Alternative "E" -- I do not approve of the increase in management area 7 for two reasons: 1) increasing burning, wood products use, and grazing would lead to a less diverse ecosystem, because some more valuable species (i.e. game) are favored at the expense of others. 2) Oregon's air is not so pristine that we can afford to increase burning for the sake of forest "management".

RESPONSE. The Oregon Department of Fish and Wildlife developed population objectives for deer on the Forest. The prescribed use of fire will be necessary to maintain diversity within the plant communities. Habitat management will be designed to provide a mosaic of forested conditions (see Management Area 7, S&Gs). The Forest must comply with the Clean Air Act, the Oregon Clean Air Implementation Plan, and local air quality regulations.

COMMENT. Alternative "E" -- In terms of underburning (along the eastern flanks of Ft. Rock district), The forest service should adopt an aggressive policy of removing younger stands of trees that are growing up under the large ponderosa pine. The forest service should examine both burning

and thinning to remove the trees. The Forest Service should attempt to recreate the large park-like stands of ponderosa pine.

RESPONSE. The Management direction, prescriptions, standards/guidelines can be found in the Deer Habitat Management Area in Chapter 4 of the Forest Plan.

Road Management

COMMENTS. Maintain adequate road access for recreation, fire protection, and pleasure driving for older citizens.

Utilize flexible road designs to meet Forest needs but minimize the impact on the land and wildlife.

Do not allow logging or utility companies to build roads with steep grades and poor locations that cause erosion into streams.

Close more roads after logging use to protect wildlife and obliterate roads that were intended for short-term use.

Provide vegetative screening along main access roads.

Obliterate roads within one mile of the wilderness boundary.

Build no more logging roads and build no more high speed cinder roads.

RESPONSE. All of the above concerns are valid objectives for road construction and road management. Several years ago the Forest Service adopted new guidelines for establishing road design standards by Service Level which assures the minimum standard to serve the resource will be constructed. Access to developed sites will be maintained for passenger cars. Additional roads will be maintained open for high-clearance vehicles. Where justified for soil erosion, economics, or wildlife concerns; roads will be closed or obliterated. Eventually, all roads on the permanent system will have written management objectives based on a transportation planning analysis.

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Todd Lake-Three Creeks Road

COMMENT: The City of Sisters and some of the Sisters community would like to have the road constructed to a two-lane paved standard to provide a direct link with their community and the Mt Bachelor ski area. Other respondents would prefer to have the road remain in its current condition which offers a "primitive" driving experience. The ODFW believes the elk and wolverine habitats would be affected by high use. Others would prefer to have the road closed.

RESPONSE: The impacts of constructing a two-lane paved road through this area would be environmentally significant. Considering this, the road will remain in a primitive condition with maintenance activities limited to those required for high-clearance vehicle passage and erosion control.

Irish-Taylor Road

COMMENT: There was no public response for improvement of this road to a higher standard. Some respondents prefer to keep the road open to its current standard while others would prefer to have it closed.

RESPONSE: The present condition of the road is causing some environmental impacts due to steep grades and traffic use. The road will receive spot improvements to correct the problems, but otherwise will be maintained at its current standard, which is for high-clearance vehicles at low speed.

Waldo Lake Road

COMMENT: The comments received ranged from, "it was a mistake from the beginning - close it," to "build a two-lane paved road so thousands of recreationists do not have to drive an extra 50 miles to the High Cascades." Other respondents would prefer to maintain the existing standard.

RESPONSE: Improving the Waldo Road to a two-lane standard would provide a shorter route for traffic traveling from the valley (Eugene) to the Cascade Lakes Highway (46). It would also provide better access for recreationists in the Crane Prairie area to travel to Waldo Lake. However as the route became known to the public traveling

between Eugene and Bend, it would become a bypass to the Highway 58 route during the snow-free months. The impacts and benefits of this option will be evaluated through an environmental review process before considering improvement to a two-lane paved standard.

Windigo Pass Road

COMMENT: A few comments were received indicating the desire to keep the existing standard open for use.

RESPONSE: This road is one segment of an earlier plan to build a North-South cascade lakes scenic drive. A formal plan no longer exists but the concept has been perpetuated to some degree.

During this plan period the road will continue to be maintained at its current standard, for passenger cars at low speed. This road may be improved as needed to handle traffic needs subject to required environmental reviews.

Recreation Management

Recreation (In General)

COMMENT: Special users generating unique costs ought to accept realistic fees for such privileges. A case in point is the nordic trail system. Not all nordic trails, but those more intensely developed such as the swampy lakes nordic area, could be fee areas, and with fees should come a degree of privacy.

RESPONSE: Congress is considering charging fees for recreational use. The additional development for areas such as the Swampy Lakes Nordic Area has been in part due to volunteer work. Snow Park permits (State fee) defray the cost of maintaining the parking area. Trails are available for people seeking a more private experience.

COMMENT: There is not enough emphasis on the important role the National Forest will have in supporting the tourism segment of the future economy. There is a concern that there has been

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too little emphasis in the plan for the the future of tourism in Deschutes County and Central Oregon

RESPONSE: The treatment of recreation in the FEIS and Forest Plan has been considerably expanded as a result of this and similar comments.

COMMENT: Numerous respondents indicated that recreation is "Central Oregon's number one growth industry and an integral part of its economic development plan". Some indicated that recreation, rather than timber, was the future of the Deschutes National Forest. One respondent pointed out that recreation on the Forest was very important to the State of Oregon and even nationally. Most of those who pointed out the importance of recreation to the local economy advocated careful allocation of resources to reflect this relationship and wanted recreation levels to be maintained, if not increased. Others recognized the value of recreation but felt it will not replace the forest products industry as our mainstay. They said "don't increase recreation unless it can be done without reducing the timber harvest."

RESPONSE: The Plan recognizes that recreation is becoming a mainstay of Central Oregon's economy. It involves both Oregonians and out of state visitors. Annual contribution to the local economy from recreational activities is around 375 million dollars. The Plan recognizes that recreation is and will continue to be an important part of the areas economy and directs that recreational facilities will be expanded in order to meet the growing demand. It also recognizes that the expansion of recreational facilities may adversely affect the total Forest's timber harvest. The Plan now directs that the Intensive, Undeveloped, and Winter Recreation Management Areas will not be included in calculating Forest's Allowable Sale Quantity. The loss of timber harvest is considered minor. These Recreation Management Areas are not, however, closed to timber harvest as long as the harvest practices meet the standards and guidelines of the respective management areas.

COMMENT: Some respondents felt there are "plenty of recreation opportunities now" and they

do not want the Deschutes to "be one big parking lot." They favored more undeveloped opportunities and less developed recreation. Others favored more recreation because the population is increasing and because more is needed within an hour's drive of population centers.

RESPONSE: The Plan recognizes that there will be an increase demand for both developed and undeveloped recreational activities. It should be made clear that just because an area is identified as Intensive Recreation every acre will not be developed. Some recreation areas on the Forest are already at peak recreational use or development and additional development would only cause environmental damage. There are, however, areas that can accommodate additional recreational development. The Forest is now working on implementation plans and doing intensive recreational planning to properly manage this development. The Plan calls for development of trail and trailhead facilities in the Undeveloped Recreation Management areas to accommodate the increase recreational activities that are expected to occur in these areas.

COMMENT: Alternative "E" -- Do not approve of increase in management areas 13 or 7 in this alternative. the objectives of Management area 13 conflict -- I do not see how nordic skiing will be improved by geothermal development. It appears as if winter recreation has been used to disguise the real "management" intent for these areas (i.e. geothermal). *Concerns about the Winter Recreation-Geothermal land allocation.* Winter recreation and geothermal development should be separate management designations that may or may not overlap. Geothermal development and winter recreation are not compatible.

RESPONSE: Geothermal was removed from the prescriptions for Management Area 13. It is shown in the Standards/Guidelines as being an area that would likely have minimal restrictions applied to leases however. Exploratory activities, which are all that is likely to occur during the life of the Plan, should not detract from winter recreation and could be compatible with winter recreation. If at some future time, development is proposed, an

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environmental analysis will be made to prior to development.

Recreation Residences

COMMENT: Retain and protect summer homes and make no classifications to the Metolius River that would jeopardize summer homes. Make a tie to the "Future Use."

RESPONSE: The Plan does not propose to eliminate recreation residences (summer homes) unless, on a case by case basis, a site is needed for a higher public value. Higher needs are determined through future use determination. There are no proposed future use determinations proposed during this plan period. Refer to Standards/Guidelines for Special Uses. Classification of the Metolius River into the Wild and Scenic River system would not in itself change the status of recreation residences.

COMMENT: Buy out Norcott and Bpowersox residences at the Crescent Lake townsite and enlarge the snow park

RESPONSE: The suggestion refers to Community Residences rather than Recreation residences. The Forest Plan has no plans to expand the snowpark at this time. The permittees have life tenure permits.

COMMENT: Get rid of recreation residences. Save a few for historical purposes and run a lottery for general public use.

RESPONSE: Some years ago the Forest Service recognized the potential conflict between public recreation use of the National Forest and the exclusive use provisions of recreation residence permits and decision was made to not make any additional sites. The Forest Service also recognized the recreation Residence use as a continuing program until such time it was determined there is a need to utilize the areas for public recreation. Such a decision will be made through a "Future Use Determination; study which will determine when or if the sites are needed for public recreation.

The Plan does not propose to eliminate recreation residences. They are a legitimate use under National Forest System permit. The plan prohibits new recreation residences from being established

COMMENT: Give Recreation Residence owners an opportunity to purchase their lots.

RESPONSE: The Forest Service has no authority to sell lands to individuals. Lands would have to be declared surplus to National Forest needs for disposal through GSA. Summerhome lots are not considered surplus to National Forest needs.

Developed Recreation

COMMENT: Many respondents mentioned that recreation is what central Oregon is all about and that more developed recreation should be offered to meet the demand. One respondent wanted more developed recreation also but added that the service levels could be reduced. Several people added that more developed recreation was preferable to more roadless areas or more wilderness. Others were advocating more developed recreation if the quality of recreation would remain commensurately high and were concerned about quality enough that they felt fees were okay in order to ensure that high quality experience. Several of those who wanted more developed recreation felt that a good reason for placing more emphasis on developed recreation was because more people can drive than walk to go camping.

RESPONSE: The Forest Plan recognizes that developed recreation sites will become increasingly popular and calls for the development of new, expansion of current and the rehabilitation of existing sites. Standards/guidelines for Intensive Recreation Management areas call for management of fee sites at the full service or high level maintenance while the nonfee sites would be managed at the reduced service levels. The Plan calls for development of overnight and day use facilities and this development is to reflect the changing needs of the public. It is recognized that both intensive and undeveloped recreation will grow. In order to provide more information on

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the planned growth of facilities in these management areas, implementation tables for the Developed Recreation and Trails Capital Investment Programs have been included in the Plan. The emphasis of the Plan is to provide a range of "quality" outdoor recreation opportunities and current facilities are being brought up to standard to maintain this "quality" experience.

COMMENT: Several respondents commented on fees. Generally they felt fees were all right and should be charged, otherwise the Forest Service competes unfairly with private campground operators. Others felt they were necessary to keep the quality of facilities high and others mentioned that the program should be expanded to include charging for day use.

RESPONSE: The Plan recognizes the criteria for fees on developed sites is based on the Land and Water Conservation Fund Act. Briefly, direction is that "fees must cover, as nearly as possible, the costs of operating and maintaining fee sites and facilities." However, the amount charged should be comparable for facilities and services provided by the private sector, other Federal, State, and local agencies and should not present unfair competition to them. The possibility of charges for day use is currently being examined to see if they can be expanded.

COMMENT: Some respondents felt that developed recreation should be decreased.

RESPONSE. The Plan recognizes that recreation use will increase in the future. Direction is that developed sites will become increasingly popular and will be managed to keep occupancy rate at current level of 43 percent. This will require the addition of 65 units a year.

COMMENT: Many respondents recognized the need for development in intensive recreation areas but pointed out that some campers with self-contained RV's would prefer a site that allowed them to camp together with a place for the children to play over crowding into the "beautiful spots."

RESPONSE: The Plan recognizes that the needs of the recreating public are changing and directs that, where ever possible, new facilities will be designed to meet these new needs. Several group facilities are currently being planned or constructed. The Developed Recreation Capital Investment Program implementation table, in the Plan, identifies those projects that are being planned.

Campgrounds

COMMENT: Of those respondents who preferred more campgrounds, many mentioned present crowded conditions in popular sites, the importance of day use of campgrounds, need for campsite maintenance, and the need to recognize the average person who prefers roads and campgrounds over dispersed recreation or wilderness areas.

RESPONSE. The increasing demand for developed recreation sites is recognized by the Plan. Management direction calls for development of new campgrounds and/or expansion of existing ones. The objective will be to keep occupancy rates at current levels of 43 percent. This calls for the addition of 65 units annually. The direction also calls for development of more day use facilities such as boat ramps, picnic areas, and interpretive sites. Their development will reflect the changing needs of the public. Management direction will be to maintain fee sites at full service level which nonfee sites will receive reduce service level or minimum standard of cleaning and maintenance.

COMMENT. Some who favored continued development of campgrounds emphasized that most of the unique areas of the Deschutes National Forest are saturated. Moderate expansion would be preferable and should occur in areas such as Fall River, Hosmer Lake, and Deschutes Crossing. Separation of horse camps and hiker campgrounds was also a concern.

RESPONSE: The Plan recognizes that in order to meet the growing demands for developed recreation, expansion of current facilities will be needed. While some new sites will be constructed, expansion of present campgrounds along with the

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continued emphasis on rehabilitation and heavy maintenance of existing sites will meet the growing demand. We are currently developing implementation plans and doing intensive recreational planning for areas on the Forest in order to meet the growing demand for additional facilities. The Plan recognizes that the private sector will also be constructing new campgrounds. There will also be a partnership of operation and maintenance of existing facilities with the private sector. Current Forest direction is to identify horse campgrounds as such and to basically separate the horse/hiker camping facilities.

COMMENT: Some respondents felt that enough campgrounds exist now and that primary emphasis should be on filling them to capacity rather than expanding and on upgrading overused campgrounds along Cascades Lakes Highway.

RESPONSE: The Forest Service is mandated to manage its recreation facilities so that overuse and site degradation does not occur. Research has found that management of campgrounds at current levels of 40 to 45 percent will not adversely impact the sites; however, where sites receive 70 to 100+ percent use definite site deterioration takes place. The Plan recognizes that rehabilitation and heavy maintenance of existing sites is only part of the answer to meet the growing recreation demands. Additional units are also part of the answer.

Downhill Skiing

COMMENT: Expansion of Mt. Bachelor alpine facilities appear okay. Would like to see it go to capacity. One person cautioned against allowing overnight lodging, shops or villages.

RESPONSE: The Forest evaluated the situation and determined that existing facilities at Sunriver and Bend fulfill the need for lodging etc. at Mt. Bachelor.

Dispersed Recreation

COMMENT: Numerous comments advocating protection of Squaw Creek wanted it to be changed from a General Forest Management Area to an Undeveloped Recreation Management Area. They preferred implementation of the proposed 23 mile scenic loop and possible boundaries of 3 Creeks Highway on the southeast and Road 1514 on the northwest.

RESPONSE: The Squaw Creek drainage has been examined and reexamined for visual designations and for development of recreation values. With high potential for the potential failure of Carver Lake attracting people into the Squaw Creek drainage with additional recreation development or special designations would not be desirable. Some additional visual allocations were made where flood hazard could be avoided. Additional direction was added to the Riparian Standards/Guidelines to protect the drainage during timber harvesting operations. Squaw Creek has been Designated as part of the Wild and Scenic Rivers System.

COMMENT: Several respondents were concerned about the concept of Management Area 13 and the "lumping of winter recreation with geothermal." Others felt that mixing snowmobiles, nordic skiers, snowshoers, etc., was irrational and impractical.

RESPONSE: Management Area 13 (Winter Recreation/Geothermal) did not work. The prescription and the management goal for it has been rewritten to emphasize winter recreation with some development permissible to enhance visitor satisfaction. Geothermal development could occur within portions of this allocation but proposals would be evaluated through the NEPA process and would conform with new standards/guidelines for energy resources. S&Gs for the winter recreation allocation emphasize separation of uses to optimize quality recreation experiences.

COMMENT: Advocated controlling vehicle traffic in the OCRA.

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RESPONSE: The Oregon Cascades Recreation Area legislation specifically directs the Forest Service to "provide for the use of motorized recreation vehicles." *Specific planning for the OCRA will indicate areas and/or trails where ORV's may be used. Some areas with the OCRA, such as Big Marsh, may not offer ORV opportunities.*

COMMENT: One respondent specifically said no new roads in Management Area 12. It would be a waste of money and would degrade the undeveloped character of these lands.

RESPONSE: Added direction in standards/guidelines that roads will be maintained for recreation uses at a level where mileage and density is no greater than what currently exists.

COMMENT: On the side of less undeveloped recreation, a respondent pointed out that there already are other areas where dispersed recreation can occur such as the OCRA, Wilderness, Bend Watershed, and Research Natural Areas.

RESPONSE: While the comment is true, the rate of roading and development on the Deschutes will make undeveloped areas an increasingly valuable resource for many people toward the end of the planning period.

COMMENT: Alternative "E" - Skiing: I'd like to see the forest service make detailed and specific plans for new nordic ski facilities in addition to swampy lakes nordic area. Snowmobiles and nordic skiing are not compatible and exclusive areas must be set aside for non-motorized winter use. Since wilderness areas are already set aside for non-motorized use better winter access should be created to make them more accessible than they are now for day use. I'd specifically like to see more snow parks further out Century Drive at Devils lake and Sparks lake.

RESPONSE: The Forest Plan specifically provides for expansion of nordic ski trails. Providing for more winter recreation is the purpose of Management Area 13. Exactly where and how that will be

done will become more specific as the Plan is implemented.

COMMENT: Any banning of over-the-snow vehicles from using certain areas is discriminatory and uncalled for. The economic benefits to the areas around the Deschutes National Forest from snowmobiling and grooming of trails for the use of snowmobiles are many. gas purchases, lodging/motels, lodges such as Paulina, Crescent and Elk Lake lodges reap many dollars from area and out-of-area snowmobilers' purchases of goods and services, money spent in these areas to maintain and operate the three pieces of grooming equipment, and money spent by local and out-of-the-area snowmobilers on equipment and maintenance of equipment.

RESPONSE: The S&Gs for winter trails state that, "expansion opportunities will be sought in areas that will not reduce snowmobiling opportunities and which can provide for a separation of uses." Safety is an important consideration here.

Other Developed Facilities

COMMENT: Numerous comments concerned future expansion of Mt. Bachelor. Some respondents felt it should be developed to meet the demand; others did not want intolerable visual impacts in the area to be created or overnight accommodations to be allowed since they would ruin the forest environment atmosphere.

RESPONSE: The Mt. Bachelor Master Plan, which is subordinate to the Forest Plan, provides for staged development. Development is driven by the ski areas cash flow--an expression of demand. Visual objectives are specified in standards/guidelines and are routinely monitored. Projects are reviewed and approved on a case-by-case basis. Overnight accommodations are not currently included in the Master Plan and are not permitted in the final Forest Plan.

COMMENT: One respondent suggested that toilets be added to the Green Lakes Basin or that the area be limited to day use only.

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RESPONSE: Some toilets have been placed in the Green Lakes Basin. Limits of Acceptable Change (LAC) standards will be monitored to provide a basis for evaluating trends in the Green Lakes Basin. A shift to day use only could come as soon as conditions dictate. Fires are not prohibited within one mile of this Basin

Trails

COMMENT: Several respondents were against location of mountain bike trails near wilderness areas or trails. Numerous respondents would like to see loop trails adjacent to campgrounds, encircle lakes, and include destinations such as falls or other scenic vistas. Others did not want the trail system to be degraded through timber harvesting, roading, or geothermal development.

RESPONSE: Motorized use and bikes will generally not be permitted on trails that access the Wilderness and are not permitted in the Wilderness. Motorized use is also banned from the Pacific Crest Trail and various other trails with heavy hiking use. An additional guideline was added to focus on loop trails and trails to special features. Most of the hiking trails are located in areas which are not scheduled for timber harvesting and geothermal activity will likely be exploration so these activities should not degrade the character of hiking trails. A ten-year trail construction activity schedule has been added.

COMMENT: Many respondents commented on trails and most favored adding more trails.

RESPONSE: The number of miles of trail to be constructed annually and shown in the Plan's output tables has been increased from five to ten miles of winter trail and ten miles of summer trails.

COMMENT: Some favored development of trails for nonmotorized use only; while others indicated a need for a mountain bike trail system.

RESPONSE: An additional statement was added to the standards/guidelines to reduce the potential conflict between trails developed for bikers and trails used by hikers. Statements have been added to separate winter motorized and nonmotorized winter use.

COMMENT: Some respondents wanted to restrict ATV and mountain bike use and to allow them only on roads. Others advocated restricting horses from certain trails and especially from Wilderness stating that horses have more impact than bikes or llamas.

RESPONSE: ATV's are currently restricted from using public roads by state law. They are also restricted from using certain areas on the National Forest to protect wildlife by area prescriptions and for a variety of other reasons identified in the Plan. Mountain bikes are restricted within wilderness. Wording has been added to restrict their use on heavily used hiking trails, on wilderness access trails, and on trails where their use would cause unacceptable damage.

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COMMENT: Several respondents were more concerned about protecting or reopening existing trails. They specifically mentioned preserving the scenic qualities of these trails and in some cases advocated relocating the trails away from developments to ensure the high quality experience.

RESPONSE: Direction has been added in the Plan to locate and relocate trails where they will not be adversely affected by development activities, e.g., logging and road building. Language added to expedite cleanup and restoration of trails in situations where disturbing a trail during logging or road building is unavoidable.

COMMENT: Many respondents favored a visual emphasis along the Metolius-Windigo horse trail and other trails especially within Management Area 8 (General Forest).

RESPONSE: Maintenance of a visual corridor along the Windigo-Metolius Trail, and other trails, was reexamined in preparing the FEIS. Although very desirable from a trail viewer's standpoint, visual corridors are awkward and expensive when dealing with other resource values. Therefore, the trails implementation schedule includes projects to relocate portions of the Windigo-Metolius to better avoid timber harvest or other disruptive activities. Direction has been added to the Plan to require faster restoration of trails after logging, etc.

COMMENT: Some respondents indicated trails should not be built for bicycles, ATV's, and motorcycles because the terrain is not suitable and it would be too expensive. Others indicated trails should not be built for mountain bikes until there is enough demand.

RESPONSE: Demand for mountain bike trails is increasing more rapidly than any other form of trail use. A variety of abandoned roads, lightly used suitable trails, abandoned railroad grades, and low standards roads have been identified to make good mountain bike trails at very low cost.

COMMENT: Maintaining existing trail system and restricting motorized vehicles and bicycles from access to roadless areas. Maintaining a sufficient amount of the Forest in an unaltered state for visual quality and "cross-country" hiking opportunities providing buffer zones between wilderness and developed areas.

Attention should be paid to providing a trail system that places major emphasis on motorized uses. Each campground should provide opportunities for trail hiking. Loop trips of various lengths need to be developed outside of existing wilderness areas. Designation of trails to scenic areas and points of interest should be more numerous.

RESPONSE: The goals and S&Gs for trails and visuals have been rewritten for the Final Plan. Efforts to evaluate areas for motorized use are being made.

Cultural Resources

COMMENT: Departure/old growth in ponderosa pine is an issue that will additionally pressure Forest Service managers concerning cultural resources. Presently prehistoric sites in old-growth ponderosa pine are protected by avoidance. Departure will force resource tradeoffs such as cultural resources versus timber or roading. Forest Service will be required to accelerate evaluation and mitigation. Manage cultural resources rather than avoid them.

RESPONSE: This effect has already begun as timber managers move into areas of cultural sensitivity which were previously avoided. There is already an increase in evaluation and mitigation because of this. Evaluation and mitigation are also increasing due to public interest in the resource. We are beginning to share the information gleaned from Forest cultural resource sites, rather than simply amass more data.

COMMENT: Save old buildings as long as possible. "Saving them through pictures is not the same."

RESPONSE: Preservation in place and adaptive reuse should always be the preferred treatment.

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This alternative must be presented with others as soon as the need for a change in a building's management or status is perceived. Cultural resource managers and the Advisory Council on Historic Preservation must be able to comment on a full range of alternatives before decisions are made.

Off Road Vehicle Use

COMMENT. Natural Forests should not include any recreational activity (any use of motorized vehicles), that destroys public lands and disturbs the wild inhabitants of the forest.

RESPONSE: Revised S&Gs in the Forest Plan address motorized use on the Forest. Their direction includes protection of public lands and minimizing disturbance to wildlife.

COMMENT: Most of those who responded on this topic stated that motorized and nonmotorized activities were not compatible. Most referred to the need to separate nordic skiers and snowmobilers. Skiers referred to the sight/smell/hazards of the combination and snowmobilers indicated the need for longer trails and larger areas due to the distance they can cover. Others referred to summer activities and felt camping and hiking experiences were disturbed by Off Road Vehicle (ORV) and "the damage they do."

RESPONSE: To reduce conflicts that exist between motorized and nonmotorized use on winter trails the standards/guidelines direct a restricting of motorized use on nordic trails rather than closing entire areas to motorized use. Individual roads and trails can be designated for separate uses which would satisfy some of the comments. Management direction is to expand or add trail and trailhead facilities to provide more snowmobile activities. Direction in plan restricts motorized-mechanized vehicles use in intensive and undeveloped Recreation management areas to designated routes or areas. The plan also restricts them from using certain areas of the National Forest to protect wildlife, vegetation, and a variety of other reasons. The conflict between hikers and ORV's is recog-

nized and the development of the Forest's travel plan/map will help identify those areas closed to ORV use (ORV is referred to as Off-Highway Vehicle or OHV in the Final Plan)

COMMENT. Generally, people felt ORV users should be controlled more. Comments ranged from totally banning snowmobiles from the Forest (partly because they blatantly take excursions into the Wilderness) and keeping them out of Bend Watershed to saying winter ORV use is okay. One person felt ORV use, including snowmobiles, should be kept out of special interest areas because they detract from resource values being protected and possible destruction of those resources. Many also indicated that summer ORV use should be restricted and pointed out that they are "wreaking havoc on flora and fauna," climbing steep hills, etc., and should be confined to roads.

RESPONSE: As a general rule, direction is that the Forest will be open to ORV use except where specifically closed. Development of a Forest travel map will identify areas where ORV's are permitted or restricted. Wording has been added to restrict motorized-mechanized vehicle use on Wilderness access trails. Portions of the Forest can be closed seasonally or year long to protect vegetation, wildlife, and other management concerns. Special interest and other management areas have identified ORV restrictions. In addition, the Forest Supervisor has authority to impose special Forest closure orders if damage to flora, fauna, soils, etc., take place.

COMMENT: Black Butte Ranch agrees with the ORV restricted area east of the Ranch but recommends making the boundaries coincide with the Old-Growth Management area. Restriction of ORV's should also be considered in portion of Section 22, T14S, R9E that lies between Road 300 and the Ranch property line.

RESPONSE: ORV restrictions already exist for Old-Growth Management areas. The plan also closes meadows, marshes, and steep slopes to ORV use and the area in Section 22, T.14S., R 9E, adequately fits under this description.

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COMMENT: Of those commenting on the amount of ORV opportunity, several indicated the need for areas that would allow a hundred mile round trip and another respondent wanted winter ORV use in Management Area 12. One person wanted Forest Service Road 41 to Dillon and Benham Falls to be open to snowmobiles. One person "saw no need to spend money to develop new ORV trails when we could allow ORV users to use low standard roads since ORV's disturb many and benefit few" while another said the Forest Service is not mandated to provide lands for dirt bikes, motor bikes, motorcycles, 3-wheelers, dune buggies, four-wheel pickups, and jeeps.

RESPONSE: Forest management direction is to offer additional opportunities for All Terrain Vehicles (ATV) and ORV use. Development of these facilities will be accomplished in partnership with the Oregon ATV fund. Direction is also given that part of the Forest Service road system that is not maintained for public use and is not involved in logging operations will be open for this use. Snowmobile and ATV's are permitted in the undeveloped Recreation Management Area 12, except where it is specified as nonmotorized. Restrictions have been placed on larger ORV's to protect groomed snowmobile trails from damage where they exist. Forest road 41 is open to snowmobile use when sufficient snow is available. The Forest Service is mandated to manage the Recreational use on National Forest lands and motorized recreation is part of this management.

Lands, Minerals and Energy

Special Uses

COMMENT: Special use permits should be minimized in roadless areas.

RESPONSE: Permit issuance is based on public need. Decisions on issuing a permit, along with the conditions of the permit, will consider the Management Area prescription including the extent to which roadless characteristics need to be preserved. In some instances, special use permits may be permitted in these areas.

COMMENT: Wants no additional permits for concessions on National Forest Lands except for Mt. Bachelor.

RESPONSE: We plan to respond to public needs when issuing permits for concessions on the National Forest. In some cases we may be issuing new permits or expand existing permits. Guidelines for expanding new permits or issuing new permits are given in the Standard/Guidelines section of the plan.

Utility Corridors

COMMENT: Roadless areas must continue to be left in an undeveloped condition. There should be no power transmission lines allowed in these areas.

RESPONSE: Management direction is to use existing corridors. Expansion of these corridors is permitted. Expansion may require a site-specific analysis in accordance with NEPA.

Three windows have been identified for future power transmission lines that may be needed to cross the Cascades. When new corridors are needed, evaluations and analysis of the projects will be done in accordance with the NEPA process and with procedures set forth in the Regional Guide.

The plan cannot at this time predict how many transmission lines will be needed. It depends on the number of new resources which will need to be connected to the grid. The plan does not separate out the amount of land projected for transmission lines from other non-timber uses. The goal for transmission line planning is to minimize environmental impacts. This includes locating transmission lines outside sensitive areas like "old growth" forest and avoiding impacts to birds of prey in areas important for them. Our concern is that adequate transmission line capacity can be sited in an acceptable manner to service the needs of future resources. We do not know how much transmission line capacity will be needed. Given that limitation, we conclude the Plan in general adequately allows for transmission line planning.

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Small Hydro Development

COMMENT: Wants no hydro projects on the Deschutes, Metolius, or tributaries to protect fishing, water quality, recreation, long term economic welfare of state, etc.

RESPONSE: The Deschutes and Metolius Rivers as well as many of their tributaries have been included in the recent wild and scenic rivers bill. These streams are to be kept as free flowing waters. Only hydro projects that can occur are at existing impoundments or irrigation systems such as Wickiup and Crain Prairie dams and irrigation diversion sites.

COMMENT: Power lines are a problem.

RESPONSE: Power lines related to hydro projects can be constructed in such a manner to mitigate effects on other resources.

COMMENT: The north forest boundary to mill pond should be hydro project for irrigation.

RESPONSE: This area is outside the National Forest administration area. The Forest Service has no decision making authority for this area.

COMMENT: Deschutes river hydro facilities are a must for central Oregon.

RESPONSE: Hydro activities on the Deschutes are limited by new wild and scenic river legislation. As a result of the new legislation only limited hydro projects can occur on the Deschutes National Forest. The areas are limited to existing impoundments.

Land Status

COMMENT: Acquire all inholdings with no disposal.

RESPONSE: The land adjustment plan allows for acquisition of all inholdings except those tracts that have been developed, ie Black Butte Ranch,

Sunriver, and areas that have been developed for residential purposes.

The Forest Service cannot make inholders sell their land. In many cases the only way to acquire inholdings that would be beneficial to National Forest programs is to exchange National Forest lands for the inholdings. Therefore, some lands must be give up in order to acquire the inholdings.

The lands that are proposed for disposal contain no unusual or unique features. Lands with high recreation, wildlife, scenic, or water values have been identified as lands to be retained

COMMENT: Change the classification adjacent to Black Butte Ranch so the lands are retained in public ownership.

RESPONSE: Both private and public lands can be managed more effectively if ownership is in large contiguous blocks rather than isolated parcels. The isolated tracts in the vicinity of Black Butte Ranch will remain available for exchange if the opportunity arises. The lands contain no unusual or unique features. In the event the lands were proposed for exchange, the public would have the opportunity for input. Should the lands go into private ownership, development would be guided by County Zoning regulations.

COMMENT: There are several parcels of land in State ownership which could be exchanged in a effort to block ownerships

RESPONSE The Land Adjustment Plan provides for the exchanges with the State to block up ownerships.

Minerals

COMMENT. Charge the State for setting up the mineral permits.

RESPONSE: The State is required to share in the cost of permit preparation. They pay for their share of pit reclamation. Fees are waved for the mineral materials.

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COMMENT: Concerns about water quality, air quality, heavy metals

RESPONSE: The regulatory process (BLM and State) has adequate mechanisms to protect and preserve water and air quality. These will be diligently adhered to by all authorizing agencies. The concerns pertaining to heavy metals are included in the regulatory process.

Geothermal Development

COMMENT: Geothermal development may follow the same route of infeasibility as oil shale did in the 1970's. With the increasing impotence of OPEC, and declining energy prices, the costs of geothermal energy probably outweigh the benefits. This is especially true when taking the cost of environmental disruption into account. Too much land is made available for geothermal leasing. The plan gives too much leeway to the lease holder after the lease is given

RESPONSE. Large areas of the Deschutes National Forest have already been leased to people and companies. This Forest Plan deals with those areas not yet leased and those areas that could be leased again if earlier leases are abandoned. The areas already leased were leased only after an environmental analysis and public involvement in preparing appropriate environmental documents. Once a lease is granted, the lease holder cannot simply begin full scale geothermal development. Another environmental analysis must be done for each proposed development. This analysis again involves the public. It could lead to either denying, limiting, or allowing full development.

As you can see, there are several places where your comments on economic justification and environmental concerns can help guide leasing and development. However, only one proposal for development of a lease has been made to date (9/88).

COMMENT. Concern is about the geothermal development in the Forest. This sort of development has the capacity to permanently destroy the fragile biological system of the high alpine areas. These

are the same areas that provide an unsurpassed recreational opportunity to our citizens, and with that opportunity a potential for a sustained and healthy economy in central Oregon.

RESPONSE: Indeed, there are areas of important recreational opportunity. However, royalties from selling electricity from geothermal power plants can produce a substantial income to the State of Oregon and county in which the electricity is produced. This economic advantage must be taken into account as well as your important concerns about a healthy recreational economy.

The biological systems you refer to in areas where geothermal leasing could lead to development are certainly taken into account in future environmental analysis of specific proposals for development. Once a lease is granted, the lease holder cannot simply begin full scale geothermal development. Another Environmental analysis must be done for each proposed development. This assessment involves the public and could lead to either denying, limiting, or allowing full development.

COMMENT. Concerns about leasing adjacent to recreation areas, both public and private, i.e. Black Butte, Mt. Bachelor, Bend Watershed, and Wilderness areas.

Comments on leasing in roadless areas, critical fish and wildlife habitats, and ecologically sensitive areas.

Geothermal leasing and development should only be permitted where conflicts with other management designations do not exist. These included such areas as lakes, streams, trails, scenic areas, special interest areas, recreation areas, critical fish and wildlife habitat, ecologically sensitive areas, and roadless areas. Additional comments stated that geothermal leasing and development should not be permitted within five miles of major public and private recreational areas such as the Metolius area, Black Butte Ranch, Mt. Bachelor, and Wilderness areas.

RESPONSE. Leasing and development options range from denial of leasing to full development.

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with very limited restrictions. Denial is used when the conflicts between leasing and development cannot be resolved or geothermal leasing is incompatible with other resource values. The draft plan has been revised to identify areas where geothermal leasing will be denied and where special stipulations will be used: (1. No Surface Occupancy, 2. Conditional Use Stipulation, and 3. Seasonal Restrictions). The standards/guidelines in Chapter 4 of the Plan direct where leasing is appropriate and the stipulations that will be used.

Geothermal leasing is denied in the interior of the Newberry Crater, Wilderness, The Oregon Cascade Recreation Area, and the Bend Watershed. It is also denied in Management Area 12 except for the exterior boundaries where a no surface occupancy stipulation would apply. Leasing is denied in developed recreation sites as well. Leasing is also recommended for denial in Research Natural Areas and the interior portion of the Experimental Forest. Leasing with restrictive stipulations are used to provide for wildlife habitat areas or areas with sensitive plants. Geothermal leasing has already occurred on the Forest in accordance with prior environmental analysis. In many cases leases have been granted within five miles of features such as Black Butte Ranch and Mt. Bachelor. These leases contain stipulations which protect recreational and visual values.

Geothermal exploration and development will require additional environmental analysis to deal with the site specific activities.

COMMENT: There should be no leasing on the Deschutes. There is already too much leasing. Leasing should be done to the fullest.

Geothermal development should not be permitted in the Deschutes National Forest. It is one of the finest Forests anyone would want and to develop it would not only be a detriment to our Forest but a loss to all which now use it.

There is surplus power, geothermal energy is not needed at this time. Too much land is available for geothermal leasing.

Geothermal should be developed to the fullest.

RESPONSE: One of the responsibilities of the National Forests is to help provide for the Nation's energy needs. This can be done on the Deschutes National Forest by possible development of the geothermal resources. With careful planning this can be accomplished compatible with the many other resource values on the Forest. Leasing will be restricted or denied to protect such values as Wilderness, the Bend Watershed, and other sensitive areas. Leasing direction is provided in the geothermal standards/guidelines in Chapter 4 of the Forest Plan.

It takes several years to put a power plant on line, therefore it is important that we consider geothermal leasing at this time, even though there is a current surplus of electrical energy. We must plan for future needs.

COMMENT: This Plan should limit geothermal conclusions to issue identification and policy declaration. Suggest that an "open unless closed" policy for exploration be confirmed through the Plan and leasing recommendations for all non-critical areas. Critical = irreversible effects resulting from exploration.

RESPONSE: The revised standards/guidelines give direction on leasing. Geothermal exploration and development will require additional environmental analysis to deal with the site specific implications and decisions.

COMMENT: Comments on leasing in Newberry Crater. Lease in Crater: It would be a serious error to overlook and prohibit geothermal leasing in the Newberry Crater itself. Deny leasing in Newberry Crater.

RESPONSE: The recreational, fish and wildlife, and geological values found in the interior of the Crater are significant. The Crater is being managed for both developed and undeveloped recreation. There is also a Bald Eagle nesting area which is being protected. The unique geologic features are recognized and are being protected. Geothermal leasing is denied in the interior of the Crater.

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to protect these values. This does not foreclose the opportunity to explore and develop the geothermal resources of the Newberry volcano as the outside slopes are available for leasing.

COMMENT. Alternative "E" -- Provide no geothermal development within the surface area of Newberry crater. The surface interior of Newberry Crater provides unique and exceptional geologic resources and recreational experiences as well as having high scenic values. The chamber supports the preservation of this area in its present circumstances. The Newberry Crater area also has great geothermal potential that could provide a long range alternative to nuclear and fossil fuels electrical generation. The chamber feels very strongly that this potential must be thoroughly explored.

RESPONSE: Public comment has been running continuously and strongly against allowing geothermal development within Newberry Crater since geothermal leasing on federal land first became possible in 1974. In 1975, a local group called Friends of Newberry Crater were successful in instigating State of Oregon Resolution HJR-31 which resolved that Newberry Crater was unsuited for geothermal development because of higher values such as recreational, scenic, and educational. The feelings expressed in this resolution seem to be broad and deep within the public.

There is some confusion about the area covered by the name, Newberry Crater. Some people have extended the meaning of Newberry Crater to all land in and around the volcanic caldera (crater) of Newberry Volcano. By this definition, there is now clear or accepted boundary beyond the crater itself. Following the apparent intent of Lewis A. McArthur in Oregon Geographic Names, 5th edition, Newberry Crater is here defined as the large volcanic caldera (crater) of 17 sq. miles at the top of 500-sq-mile Newberry Volcano. The exact boundary follows the perimeter of the hydrologic basin formed by the caldera of Newberry Volcano.

Special Interest Areas

COMMENT: Add a special interest area for the lava tubes and the caves they create

RESPONSE: There are hundreds of lava tubes on the Deschutes National Forest. They are given special management direction on the Forest through cave management standards/guidelines. Several existing special interest areas do contain lava tubes.

COMMENT. What protection are you giving caves with destructive values?

RESPONSE: All caves on the Forest have applicable standards/guidelines pertaining to cave roofs, cave entrances, slash disposal, nearby vegetative buffers around entrances, roads and recreation. More specific protection is given to caves inhabited by the Townsend's big-eared bat.

COMMENT: Add a new SIA or put into undeveloped recreation a large grove of ancient junipers found in R10E, T14S, Section 11 SE 1/4. It is presently in General Forest area.

RESPONSE. There are no plans to designate this area at this time. Also, there are no activities planned which would disturb this area during this planning period. Future evaluation of this area for special interest area classification is not foreclosed.

COMMENT: Do not allow livestock grazing or ORV's in SIA's.

RESPONSE. Many SIA's are closed to ORV's and few provide grazing opportunities. Many geologic areas which are predominantly lava flows or obsidian flows naturally exclude ORV's. Few (or no) active grazing allotments include SIA's. Although this concern does not seem to be a real problem, the SIA prescription was rewritten to more clearly state that these uses should occur only where the use is not incompatible with the purposes for which the SIA was established.

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COMMENT: Comments favored the existing and proposed SIA's and suggestions for adding in Castle Rock, Balancing Rock, Head of Jack Creek, Black Crater, Squaw Creek Falls, McArthur Rim, Davis Lake, Horn of Metolius.

RESPONSE. These areas were reconsidered and Balancing Rock, Castle Rock, and Davis Lake were added to the SIA list. It was felt that this existing and proposed list of SIA's adequately represents the types of features the SIA designations were designed to cover.

Wild and Scenic Rivers

COMMENT: It is of utmost importance to now undertake long term planning for the squaw creek corridor and scenic loop, not only because of its dramatic beauty and importance to wildlife migration, but also because of its invaluable recreational contributions to local and tourists alike. All aspects of the corridor make it an ideal "undeveloped recreation" site and it should be managed as such in the new forest plan. The remaining 9 miles of the squaw creek scenic loop should also be visually protected.

RESPONSE. Most of the area mentioned above will be managed as a scenic corridor with a management standard of Partial Retention. A large portion of the area is within a Wild and Scenic corridor for Squaw Creek and a management plan is being written. At this time there is no specific plan for the portion of the Squaw Creek scenic loop outside of the Wild and Scenic corridor.

COMMENT: Alternative "E" -- Include all of the Deschutes River that flows within the boundaries of the Deschutes National Forest under appropriate, specific designation that include, but are not limited to Wild and scenic or recreational classifications. The Deschutes River is a vital resource for Central Oregon. Its waters provide for the best acreage of irrigated farm lands and residential yards. It is an outstanding recreational resource for fishing, rafting, canoeing and other water activity.

RESPONSE: We concur on the importance of the Deschutes River. The portion of the river between Wickiup Reservoir and the Bend Urban Growth Boundary was designated as a Wild and Scenic River by the Omnibus Oregon Wild and Scenic River Act in 1988. We are in the process of developing a management plan for this section of river.

Recent studies by Forest personnel have determined the headwaters portion of the Deschutes River from its source at Little Lava Lake to Crane Prairie Reservoir to be eligible as a Wild and Scenic River. The headwaters portion of the river will be protected as a Wild and Scenic River until further suitability studies determine if the river segment should be recommended to Congress for designation as Wild and Scenic.

COMMENT: Proposals for wild and scenic designation on the Deschutes and Metolius.

RESPONSE: New legislation has designated those portions of these rivers on the Deschutes National Forest under the Wild and Scenic Act. It is no longer a proposal in the Forest plan.

COMMENT: Include the entire Deschutes and Metolius Rivers with major tributaries

RESPONSE: Since the DEIS was published in 1986 all of the Metolius, major portions of the Deschutes, and portions of Squaw Creek, Crescent Creek, the Little Deschutes River, and Big Marsh Creek have been designated as Wild and Scenic by the Oregon Omnibus Act.

COMMENT: Designate the upper and lower Metolius River.

RESPONSE: The entire Metolius River was designated as a Wild and Scenic River in the Omnibus Oregon Wild and Scenic River Act. The Forest is presently developing a management plan for the river in conjunction with the Confederated Tribes of the Warm Springs, Oregon State Parks, Oregon State Marine Board, Oregon Department of Fish and Wildlife, and Jefferson County.

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COMMENT. Classify the Deschutes, including the upper segment.

RESPONSE. The portion of the Deschutes River from Wickiup Reservoir to the Bend Urban Growth Boundary was designated as Wild and Scenic in 1988. Recent determinations have found the portion of the river from Little Lava Lake to Crane Prairie eligible for Wild and Scenic status. Further suitability studies and recommendation to congress will be completed in the future.

COMMENT. Designate Crescent Creek, Little Deschutes, Fall River, Spring River, Tumalo Creek and Squaw Creek as "Recreation".

RESPONSE: The Omnibus Oregon Wild and Scenic River Act designated 10 miles of Crescent Creek, 12 miles of the Upper Little Deschutes, and 15 miles of Squaw Creek as Wild and Scenic Rivers in 1988. Recent Wild and Scenic River eligibility studies completed on the Forest considered Fall River, Spring River, and Tumalo Creek. Only Fall River was determined to be eligible and will be protected as a Wild and Scenic River until further suitability studies can be conducted to support a recommendation to congress (see Appendix D of the EIS).

COMMENT. Classify the Metolius as "Wild" from Bridge 99 down.

RESPONSE. With the road as close as it is in places to the Lower Metolius, the segment would not qualify for the "wild" classification.

COMMENT. Manage the Metolius and Deschutes Rivers for scenic and wildlife values rather than intensive recreation or timber.

RESPONSE. The Metolius and Deschutes were designated as Wild and Scenic Rivers by the Oregon Omnibus Act in 1988. The Act requires that management plans be developed for the rivers to protect and enhance the rivers outstandingly remarkable values. Management plans for each of the rivers are in progress and scheduled to be completed in early 1992.

COMMENT. Restrict timber harvest and commercial use in the Metolius.

RESPONSE. The Metolius has been included in the Wild and Scenic allocation. Timber within this allocation is not included in the Allowable Sale Quantity Management goals are oriented toward protection and enhancing the rivers outstandingly remarkable values. The rivers outstandingly remarkable values are recreation, scenery, fishery and geology.

COMMENT. Change "No commercial rafting on the Metolius (p. 63) to "No rafting."

RESPONSE. This suggested change was not made. There was no compelling argument or data to suggest this change was needed. The question will be considered again as we develop a management plan for the river.

COMMENT. No road build and limited motorized use below Bridge 99.

RESPONSE. No additional road is planned during the planning period. Some restrictions are being evaluated in the Metolius Implementation Unit Planning being conducted.

COMMENT. Metolius Corridor should be used for intensive recreation.

RESPONSE. A variety of indicators suggest the Metolius corridor is near its recreation carrying capacity. Extensive new development is not planned.

Wilderness

COMMENT: Many comments were opposed to existing or more Wilderness because it's a waste of timber, could adversely affect timber related jobs, only a few people use the Wilderness, or Wilderness excludes some people and activities such as snowmobiles. There were suggestions that actions be taken in the remaining roadless

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areas so they could not be considered for Wilderness at some future time. There were also a few comments that more Wilderness was needed.

RESPONSE: The question of additional Wilderness was not addressed in the DEIS. The Oregon Wilderness Act of 1984 made provisions that the roadless areas need not be considered for Wilderness in this round of planning but would be considered when the Plan is revised which is normally at the end of 10 years and not later than 15 years. No recommendations for additional Wilderness was made, however approximately 80,000 acres are in Management Areas that allow only minimal development so they could potentially be available for consideration as Wilderness when the Plan is revised. Most of the timber in these areas is lodgepole pine and mountain hemlock with very little of the higher valued ponderosa pine found in the roadless areas that will remain undeveloped. Providing for some undeveloped areas outside of Wilderness helps round out the recreation experiences on the Forest.

COMMENT: Restrictions on Outfitters and Guides in the Wilderness are not reasonable and are discriminatory.

RESPONSE: Some additional flexibility was incorporated into the standards/guidelines for Recreation Special Uses.

COMMENT: Some portions of the Wilderness are over used and restrictions should be imposed to curtail the degradation. Commercial groups should not be allowed to use these areas. Such restrictions would also apply to commercial users.

RESPONSE: The Wilderness Plans provides for restrictions when use begins degrading Wilderness values. Use is currently being distributed through contacts with the public and advising them on areas to use that are less crowded. Further restrictions may be phased in as needed.

COMMENT: Some comments recommended that management activities such as timber harvesting,

wildlife habitat improvement, and recreation be permitted in Wilderness.

RESPONSE: Such activities are not permitted under Wilderness Act or can only be done under very unusual situations with special authority.

COMMENT: There was some support expressed for the ban on military exercises and contests in Wilderness areas.

RESPONSE: The direction banning the use of Wilderness for military exercises and contests was retained in the Final Plan.

COMMENT: Leave existing structures in place and let them deteriorate in place rather than spending money to remove them. This includes the Muskrat Lake cabin.

RESPONSE: Structures such as cabins are man made features that are not permitted under the Wilderness Act. Such non-conforming features must be removed and direction to do so was retained in the Final Plan.

Research Natural Areas

COMMENT: The allowance of snow vehicles within RNA's appears to be in direct conflict with the primary purpose of these areas (research and education).

RESPONSE: Neither recreation nor range use are incompatible with RNA's but they must not threaten the values for which each RNA has been established. The standards/guidelines for management of RNA's can be found in Chapter 4 of the Forest Plan. These standards/guidelines are designed to protect the values of the RNA.

COMMENT: Needed research has not been accomplished and the exclusion of fire in the Metolius RNA has resulted in an impenetrable understory, impairing scenic quality, wildlife and the health of the timber stand.

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RESPONSE. Since the writer did not mention which research has not been conducted this comment cannot be responded to. The purpose of RNA's is to provide areas that are allowed to exist in a natural situation where research can be conducted.

COMMENT: The Metolius River, in the Metolius Breaks area would be an excellent site for the protection of cell number 8, Ponderosa Pine/Big Sagebrush/Wheeler's Bluegrass community in a fourth order stream segment

RESPONSE: The Metolius Breaks area would not be a good place for the protection of cell number 8. The community in that area is Ponderosa Pine/Bitterbrush/Needlegrass. Sagebrush is alien to the area if present at all.

Roadless Areas

COMMENT: Maintain roadless areas in their current condition, i.e., no motorized use, no geothermal development, no logging were stressed by a large number of respondents. Maiden Peak, North and South Paulina, Bend Watershed, and the Metolius Breaks roadless areas were mentioned most often in this context. Some pointed out that existing roadless areas are needed to provide an adequate range of recreation opportunities in the SPNM and PNM ROS classes while others felt that keeping the areas undeveloped would contribute to the economics of recreation and tourism. Preserving the areas for wildlife habitat and old growth were among many of the reasons why people wanted the roadless areas to remain undeveloped. Some comments pointed out the opportunity to use some of the roadless areas to expand opportunities for hiking and cross country skiing.

RESPONSE: Following is a summary of direction for each roadless area.

Waldo- A portion remains undeveloped and the area available for development focuses on visual quality, intensive recreation, spotted owl and bald eagle habitat.

Charlton- The area to remain undeveloped was expanded to include more of the roadless area. The majority of the area is included in Management 12.

Bearwallows- The majority of this area is available for development. No timber harvest was scheduled in the first decade in the development of the allowable sale quantity. However due to the mountain pine beetle epidemic or because of the need for firewood, some management activities may occur.

Bend Watershed- The majority of the area remains undeveloped.

West-South Bachelor- The majority of this area is in Management Area 13 which emphasizes winter recreation. Timber management and roading are limited to activities that enhance the winter recreation opportunities.

Maiden Peak- The majority of this area will remain undeveloped. The boundary of Management Area 12 was moved to the east in this roadless area because of public COMMENT about the area.

North Paulina- That portion of the roadless area inside the Newberry Crater will remain undeveloped. The portions outside the crater will be managed with an emphasis on visual quality.

South Paulina- Same as North Paulina.

Mount Jefferson- Due to the small size and fragmentation of these areas, they were included in Management Area 8 and are available for development.

Metolius Break- The majority of this area will remain undeveloped and is in Management Area 12.

Three Sisters- Due to the very narrow strip of land involved in this roadless area, it was not practical to try to manage it as a discrete area. With Wilderness on the west

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west side of the area and roads on the east, it was more practical to manage it consistent with areas that were not in Wilderness. The area is available for development

Many of the comments stress that geothermal leasing should not be permitted in the roadless areas. Some of the roadless areas such as West-South Bachelor and the North and South Paulinas have a high potential for geothermal energy. Portions of these roadless areas will be available for geothermal leasing so the magnitude of this resource can be determined. If the resource is there, then it could potentially be developed to contribute to regional or national future energy needs. If a roadless area is in Management Area 12 it is not available for leasing except along the periphery with no surface occupancy. If a roadless area is in Management Areas 8 or 13, then they are available for leasing. See the Standards and Guidelines in the Forest Plan for more specific information on where leasing is permitted and how restrictive it might be.

With regards to motorized use in the roadless areas, those areas included in Management Area 12 are closed to motorized use in the summer but open to over-the-snow vehicles in the winter. The same is true for the Oregon Cascade Recreation Area. Those areas in Management Area 8 and 13 are open to year round motorized use. Further adjustments may be made in the Off Road Vehicle Plan as time passes and new opportunities or conflicts surface.

COMMENT: Develop roadless areas for multiple uses was stressed by a few respondents.

RESPONSE: Of the 145,000 acres of roadless areas approximately 62% is available in the long term for some form of development. The portion that is not was kept undeveloped because of the value of providing for undeveloped recreation outside of Wilderness and in recognition of some of the features and resources found in them.

COMMENT. Expand dispersed recreation opportunities, especially hiking, nordic skiing, wildlife, on South and West Bachelor Roadless Area.

RESPONSE: Management in the West-South Bachelor roadless area will emphasize winter recreation with the area open for hiking and other activities in the summer.

Visual Resource Management/Scenic Views

COMMENT: Landscape management techniques need to be applied more widely, especially relative to timber harvesting and rehabilitation of past timber management activities.

RESPONSE: The Activity Schedule in the Plan Appendix provides for the accomplishment of one rehabilitation project per district per year. These rehabilitation projects may vary in size and scope, but the majority of them will focus on past timber management activities. Landscape management techniques such as visual magnitude studies, multiple-entry planning, and computer simulation of proposed treatment activities are now used on nearly every timber harvesting project within a Scenic Views allocation.

COMMENT: Impairment of view from road 12, Watershed and visual concerns about logging along Abbot Creek. Concerned about clearcutting next to private land.

RESPONSE: All planned timber sale activities are open to public comment. On timber sale activities adjacent to private lands, the Deschutes National Forest usually solicits comment from land owners. An environmental assessment of the activity is published and open for comment.

COMMENT. Selective logging in sensitive view-sheds is preferred over clearcutting, except where absolutely necessary, due to insects and diseases.

RESPONSE: The standards/guidelines provide for a full range of timber management prescriptions.

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to meet and perpetuate visual quality objectives. However, uneven-aged management techniques will be preferred whenever conditions permit a choice. Clearcutting will be the least preferred treatment method

COMMENT: Protect scenic values along the Metolius, Deschutes, Little Deschutes, Crescent and Fall Rivers and Big Marsh area.

RESPONSE. Scenic values in these areas are already protected in the Plan. With the exception of Big Marsh, which is now mostly within the OCRA (Oregon Cascades Recreation Area) designation, National Forest lands seen from these water features are allocated to either Developed Recreation, Dispersed Recreation or Scenic Views. The standards/guidelines require management activities in any of these allocations to be subordinate to the surrounding landscape or not visually evident. Management activities will be done to maintain healthy vegetation, promote natural diversity, and take advantage of enhancement opportunities.

COMMENT: Provide strict visual guidelines to protect viewsheds seen from highways

RESPONSE. Level 1 viewsheds are allocated in the Preferred Alternative as originally inventoried. For example, lands within a viewshed that were inventoried as Retention are now allocated to Scenic Views with the same Retention management objective. The standards/guidelines for Retention areas are adequate to protect scenic values within these viewsheds. An exception to this is in those viewshed areas where the mountain pine beetle has killed most of the mature lodgepole pine. Dead trees have already been salvaged to make way for new forests. Inventoried visual quality objectives in these areas cannot be met now, but the objectives will guide long-term management of the new forests.

COMMENT: Expand visual allocation beyond what is designated in current plan.

RESPONSE. Visual quality standards of Retention and Partial Retention are inherent in the Intensive Recreation, Wild and Scenic Rivers, Special Interest Area, Bend Watershed, Dispersed Recreation, OCRA, as well as Scenic Views allocations. The Final Plan allocates a total of 199,981 acres to Scenic Views, plus another 209,726 acres to these other allocations which specify Retention and Partial Retention visual quality standards. The result is a total that exceeds the Draft Plan's provisions for Retention and Partial Retention by 7,893 acres. The net Forest acres allocated to management areas having high visual standards is beyond what is similarly designated in the Draft Plan.

COMMENT: Keep ORV's out of visually sensitive areas

RESPONSE. ORV use is permitted in Scenic Views management areas in the Forest Plans Preferred Alternative. However, when ORV activity begins to impact visual quality in these areas or if they are in conflict with other uses, restrictions will be imposed on ORV activities. This is covered in the standards/guidelines for Scenic Views.

COMMENT. Geothermal leasing and development should not be permitted in visually sensitive areas

RESPONSE. Scenic Views management areas are within the category of Conditional Use Stipulation under Energy Resources. The standards/guidelines for this category permits leasing of Scenic Views management areas, but may limit the use of the surface. Depending on the type of geothermal proposal, specific locations, and other factors, surface occupancy or development of geothermal resources may be restricted in order to protect scenic values.

COMMENT. Leave scenic corridors along Pole Creek, Squaw Creek, Three Creeks Road, Three Creeks Lake, and Black Butte.

RESPONSE: The Preferred Alternative now includes the scenic corridors along Squaw Creek, Three Creeks Road and all but the upper portion of

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Black Butte in the Scenic Views management area. The upper portion of Black Butte has been placed in a Special Interest allocation. Pole Creek was not selected for a scenic corridor, however, the upper portion of the creek that parallels road 1524 falls into a scenic allocation associated with the road and will be managed as such.

COMMENT: Continue to provide scenic vistas.

RESPONSE: The Implementation Schedule in the Appendix provides for one Scenic Views enhancement project per year. Scenic vistas are the most common type of enhancement projects undertaken, but other projects such as planting wildflower seed mixes, encouraging aspen and larch for fall color in the landscape, and eliminating unattractive signs are also planned.

COMMENT: Do not protect scenic quality on forest lands adjacent to exclusive homesites.

RESPONSE: Exclusive homesites are not included as "significant viewer locations" in the standards/guidelines for Scenic Views Management Areas. The visual resource inventory does not give special emphasis to homesites or subdivisions adjacent to or within National Forest boundaries. However, some roads leading to homesites and subdivisions are used by National Forest recreationists. These roads are considered significant viewer locations and have been considered in the visual resource inventory for the Forest.

COMMENT: Timber harvesting units on Black Crater have reduced scenic quality.

RESPONSE: The regeneration harvest units on Black Crater are noticeable from several significant viewer locations in the Sisters area. At certain times of the year, color contrasts are extreme and these units do not meet the Partial Retention land management objective. Visual Rehabilitation projects are planned in the Implementation Schedule in the Appendix Material. The harvest units on Black Crater will be a high priority for Visual Rehabilitation.

COMMENT: Protect scenic values at the Head of Jack Creek.

RESPONSE: The Head of Jack Creek is allocated to Foreground Retention. The Retention visual quality objective means that management activities will not be noticeable to the casual Forest visitor. Next to Preservation, which applies only to wilderness areas, the Retention objective provides for the highest level of protection of scenic values.

COMMENT: The radio tower on Bearwallow Road is a discordant scenic feature.

RESPONSE: Although the Forest has a right of way for Bearwallow Road across private lands in the area described, the radio tower is entirely on private land. While we agree that this radio tower is visually discordant, the Forest Service has no authority to prescribe mitigation measures for reduction of visual impacts on privately owned lands.

COMMENT: Timber harvesting in the Prairie Creek area has resulted in unacceptable scenic conditions.

RESPONSE: The timber harvesting in question is along Prairie Farm Creek on the Sisters Ranger District. Several treatment units resulting from the timber sale are visible to motorists along Rds. 1150 and 1180.

Under the current plan, the land management allocation for the Prairie Farm Creek area is Wood/Forage. Generally, the lowest acceptable visual quality level in this allocation is Maximum Modification. Although the timber sale units in question are visually dominant on this landscape, they meet the current land management objective. In the new forest plan, this area is allocated to General Forest. The desired visual quality level in the General Forest allocation provides for created openings to be shaped and blended to the natural terrain, to the extent practicable. Future timber harvesting will consider uneven-aged management in the Prairie Farm Creek area. Where uneven-aged management is not silviculturally appropriate,

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created openings will be designed to blend with the natural landscape to the extent practicable.

COMMENT: Timber stands need to be managed to prevent insect infestation and mortality.

RESPONSE: Even in extremely sensitive visual zones on the Forest, such as along the Santiam Highway, the Forest Service uses the timber sale program as a means of achieving a variety of management goals. Sometimes these goals are enhancement of vistas or highlighting interesting rock outcrops. In most cases, the objective is to promote the health and vigor of vegetation to promote long term scenic quality. The prevention of insect infestation and mortality is almost always a benefit whenever trees are thinned to meet these visual goals.

COMMENT: Black Butte, Odell Butte and Green Ridge should be allocated to partial retention. Black Butte should be classified as Retention. Maintain the panoramic view over "Peterson burn". Protect scenic loop along Metolius-Windigo Horse Trail.

RESPONSE: Black Butte was inventoried as Retention because it is such a prominent landmark on a relatively flat landscape. The Preferred Alternative in the Forest Plan allocates the upper third of Black Butte as a Special Interest Area, and the remaining lower portion as Scenic Views, with a visual quality objective of Partial Retention. Given the vegetative types on Black Butte, it would be extremely difficult to meet the Retention objective and still manage vegetation on this sensitive landform. Without active management, the risk for a catastrophic fire on the Butte would be greatly increased.

Odell Butte and Green Ridge are also allocated to Scenic Views with a visual quality objective of Partial Retention.

As ponderosa pine plantations continue to cover the scars left by the Peterson Burn and other fires dating back into the 1950's, some distant views along the Three Creeks Road may become obscured. The Forest Service will continue to manage this vegetation through thinning activities. Along the road, vista opportunities will be planned and managed in strategic locations in order to perpetuate middle and background views.

Portions of the Metolius-Windigo trail will be relocated to more compatible allocations. Management activities along this recreation trail will be done with a greater sensitivity than those of the past, even where the trail is within the General Forest allocation.

COMMENT: Avoid planting trees in rows; use random placement to avoid "cornfield" appearance.

RESPONSE: Within visually sensitive areas adjacent to roads and recreation sites, the Forest Service no longer uses tree planting machinery which results in the uniform rows and spacing. In these visually sensitive areas, reforestation is accomplished through natural regeneration or by hand-planting. Both of these methods result in a random-pattern and avoid the "cornfield" appearance. In other less visually sensitive portions of the Forest, tree planting will continue to be accomplished by planting machinery because it is normally the most cost-effective method of reforesting larger areas.

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COMMENT: As one respondent said, "visual quality is in the eye of the beholder". Some wrote to say that we should protect all visually sensitive landmarks on the forest and another stated that we should consider allocating only major highways to scenic management. One respondent said diversity should be improved along roadsides through timber management.

RESPONSE: It is true that visual quality is in the eye of the beholder. However, research has shown that the majority of recreation-oriented people who visit the National Forests have an image, or mental picture of what they expect to see when they visit the National Forest. According to this research, the majority of visitors expect naturally appearing landscapes, rather than altered landscapes resulting from management activities. For this reason, the Forest Service has developed a Visual Management System to serve as a framework that establishes objectives for setting allowable degrees of alteration to natural landscapes.

The Visual Management System recognizes variations in the visual strength of different landscapes. Those landscapes with special features normally have the most variety and also have the greatest potential for high scenic value.

Landmarks with distinctive land forms, rock forms, vegetation, lakes and streams normally are inventoried as having the highest degree of variety on the Forest. Because of their uniqueness, they are given a high visual quality objective and are therefore "protected" from management activities that could result in obvious alterations to the visual resource.

The Visual Management System identifies degrees of visual sensitivity for all travel routes in the Forest land base. Determinants such as national or local importance, public concern for aesthetics, and the long range function for each travel route is considered. Some relatively small, secondary roads are considered to be visually sensitive because they are located within outstanding scenery, are traveled by large numbers of people who are very concerned about visual quality, or because they lead to major recreation sites. For

this reason, many of the travel routes designated as Scenic Views in the Plan are not major highways.

Vegetative management along road corridors and within other visually sensitive areas is a major thrust in our Viewshed Planning program on the Deschutes National Forest. Landscapes with little or no variety are often enhanced through vegetative management. Landscapes are dynamic, and even those areas of high aesthetic value may require some management to retain desired visual characteristics.

COMMENT: The Deschutes and Metolius Rivers should not be allocated to Intensive Recreation. They should be set aside for scenic beauty and protection of their streamside corridors.

RESPONSE. Protection of visual quality is actually provided more adequately under the Intensive Recreation allocation than it is in Scenic Views because there is no scheduled timber harvest planned for Intensive Recreation. True, more and more people will want to enjoy the scenic and recreational attractions these rivers have to offer, and overuse is a definite management concern. However, potential resource damage to streamside corridors can be avoided through careful recreation master planning and site design. Changing the allocation for these rivers to Scenic Views, or any other allocation in an attempt to "protect" them from recreationists would be futile. They are set aside for all of us to use and to enjoy.

COMMENT: Major roads through the Forest are used for destination driving, more than sightseeing. What evidence suggests that visual considerations are more important along these roads than along other travel routes?

RESPONSE One of the premises upon which the Visual Management System was built is that the number of viewers is critical. As a general rule, the visual sensitivity of different parts of the forest become more important as the number of viewers increases. All areas viewed from primary travel routes, especially roads that have been classified by State or other agencies as "scenic highways", have relatively large numbers of viewers. While a

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large percentage of people on these highways are involved with daily commuter driving, or hauling forest products and other commercial uses, there are also many motorists who have a major concern for aesthetics. For these "major roads", management activities are normally designed to meet a visual quality standard where management activities are not noticeable to the Forest visitor. Large diameter, yellow-barked ponderosa pines are an important element in these landscapes, especially in foreground viewing distance zones. The Forest Service will perpetuate this character on all primary corridors. In secondary corridors that receive substantially less traffic and that are used primarily for forest management activities or for hauling forest products, the visual quality objective is often different.

COMMENT: The Little Deschutes River, Crescent Creek, Big Marsh Creek, Squaw Creek, and Brush Creek should be managed for Retention

RESPONSE: The Visual Management System considers two factors in developing the recommended Visual Quality Standards: Variety Class (physical features of a landscape), and Sensitivity Level (types and numbers of viewers). Each of these factors is explained in detail in National Forest Landscape Management, Chapter One, The Visual Management System (Agriculture Handbook Number 462). The System does not "weigh" the visual strength of one river or creek against another on the same Forest, as was suggested in this comment. The rivers and creeks mentioned did in fact rank highly in the Variety Class portion of the inventory, but most portions of these streams did not rank highly enough in the numbers of recreational viewers to qualify them for the Retention allocation. However, most lands adjacent to these rivers and creeks have a Partial Retention visual quality standard, which will protect the scenic values of the characteristic landscape.

COMMENT: Clear cutting affects any visual scenery. In Central Oregon, our scenery is a tremendous asset. To destroy this asset is a real crime. Please consider any visual affect as a primary requisite to forest planning.

RESPONSE: The National Forest Visual Management System inputs the visual resource as an integral component to the land use and multiple use planning processes. The system recognizes that landscapes are dynamic and that even those areas with high aesthetic value may require some management activity to retain the valued character. In Scenic Views allocations small clearcut units are used to create vistas or to highlight special landscape features. But, as a general rule, clearcutting in visually sensitive parts of the Forest is only used as a last resort, such as in lodgepole stands attacked by mountain pine beetles. Uneven-aged management strategies are preferred because they normally produce and perpetuate the size-class and species diversity that is found in high quality forest landscapes.

COMMENT: It seems irresponsible to assume no value to our views of the forests, mountains and rivers. Clear cutting practices that leave our hillsides checker boarded in an unnatural pattern or allows them to erode into our rivers will potentially cost individual landowners through loss of land value

RESPONSE: There is no doubt that a parcel of land with a view of a naturally-appearing forest landscape is worth more than a similar parcel without a view. The Plan does not "assume" that scenic views have no value. It merely does not attempt to place a dollar value on one view compared to another. While some research has been done to establish the cash value of a high-quality landscape, no conclusive data has been published to date.

COMMENT: It is of utmost importance to now undertake long term planning for the Squaw Creek corridor and scenic loop. All aspects of the corridor make it an ideal "undeveloped recreation" site and it should be managed as such in the Forest Plan. The remaining 9 miles of the Squaw Creek scenic loop should also be visually protected

RESPONSE: We agree that this is a significant landscape that should be maintained in a primarily natural condition for its recreational values. The Preferred Alternative now includes a scenic corridor along Squaw Creek, including the scenic loop

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mentioned in the above. The visual quality standard is Partial Retention.

COMMENT: Certain portions of the Metolius-Windigo National Recreation Trail should be managed visual management.

RESPONSE: The Plan now provides a minimum visual quality standard of Partial Retention for the entire trail in Foregrounds. In addition, some Middleground areas viewed from the trail have Retention and Partial Retention standards. However, there will be some Middleground and Back-ground portions of the Forest viewed from the trail that will be managed to the Modification standard.

Timber Management

COMMENT. The plan would not generate economic development opportunities. Limiting the allowable harvest of ponderosa pine limits the raw material available to mills in the area. At the level specified in the plan, the allowable harvest of lodgepole pine would allow the proposed new waferboard plant to be built, though the company considering the investment may find Canadian sites more attractive and has concerns about a long term resource. Much of the existing lodgepole pine resource is expected to go for firewood. There is not much the state can do to counter the anticipated effects of this plan. That is why we advocate that the forest service develop a new alternative that increases the allowable harvest for the reasons enumerated above.

RESPONSE: Alternative C maximizes the amount of timber that the Forest can offer and still maintain long-term sustained yield. Harvest above this level would not be legal or adequately provide for the utilization of other resources, which the Forest must do.

Departure/Long-Term Sustained-Yield

COMMENT: Cut less ponderosa pine in general. Clean up "jack" pine and white fir

RESPONSE: This is largely the direction of the Plan. Lodgepole pine (jack pine), the white fir species and second growth ponderosa pine will receive higher emphasis.

Clearcutting/Uneven-Aged Management

COMMENT: Many people objected to clearcutting in ponderosa pine stands. Some people also objected to clearcutting in mixed conifer stands and a few objected to clearcutting in general. The overwhelming reason given was that it reduced biological diversity. Additional reasons given were that clearcutting created a monoculture, reduced wildlife habitat, and created a tree farm appearance. Others pointed out that NFMA requires an analysis of other cutting methods before clearcutting can be used. Many people wanted some form of selective harvest or uneven-aged management, particularly in ponderosa pine stands. A few people commented that clearcutting should be used only when necessary to control insect and disease problems.

RESPONSE: Uneven-aged management has been adopted as the preferred method of managing ponderosa pine stands in the General Forest and Scenic Views management areas. Approximately 70 percent of these stands will be managed with uneven-aged management. In all other management areas, it is given equal consideration with other silvicultural systems, but the specific management objectives of these areas (i.e. deer habitat management) will direct the selection of the silvicultural system. (See standards/guidelines for Uneven-aged Management.) It is also the preferred method of managing mixed conifer stands, but topography, insects and disease problems will limit use to approximately 48 percent of these stands. Lodgepole pine are generally not suitable for uneven-aged management at this time, largely due to mountain pine beetle problems.

COMMENT: Shelterwood harvesting is really a 2-stage clearcut. It creates openings too large and has a great visual impact.

RESPONSE. Shelterwood harvesting can have a significant visual impact. As a result of this concern,

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the Forest Plan prescribes uneven-aged management as the preferred harvest method in most ponderosa pine stands and, where possible, in mixed conifer stands. In existing shelterwood units consideration will be given to retention of some overstory trees to accelerate the eventual conversion to uneven-aged management.

COMMENT: Do not clearcut along the Metolius-Windigo horse trail

RESPONSE: Most of the Metolius-Windigo horse trail is within the General Forest or Scenic Views management areas. The direction for uneven-aged management, described above, will apply.

COMMENT: Leave snags in ponderosa pine clearcuts and designate replacement snags for wildlife.

RESPONSE: This is standard practice today and these practices are included in the Plan, Chapter 4 standards/guidelines.

COMMENT: Clearcutting has opened up views of the mountains.

RESPONSE. The opportunity to create additional vistas is recognized as important in the Scenic Views management areas and this practice is incorporated in the Forest Plan standards/guidelines.

COMMENT: There is concern about plans for old growth ponderosa pine management and the long-term economic impact of the proposed policy.

RESPONSE: Several of the alternatives examined in detail provided for increased harvest levels

COMMENT: Many people were opposed to increases in the harvest level.

RESPONSE: The Final Plan does not call for an increase in harvest level.

Forest Inventory

Utilization Standards

COMMENT Many people objected to the harvest of young, rapidly growing trees that were mixed in with other trees.

RESPONSE The direction for uneven-aged management should deal with this concern (see standards/guidelines for Uneven-aged Management).

COMMENT: Some people wanted large old-growth ponderosa pine harvested before it rotted

RESPONSE: It is recognized that there will be some increased deterioration in stands of old-growth ponderosa pine. In the Forest Plan there has been an attempt to balance the needs of the timber industry for this raw material and the desires of people who want to see them left uncut

COMMENT. Most comments expressed concerns about environmental effects of harvesting such as the need for managing the landscape to prevent unacceptable visual effects, consideration of wildlife habitat and recreation needs, and preserving roadless areas from harvesting.

RESPONSE. The effects of timber harvesting can be seen both negatively and positively. Short-term effects tend to be more negative than positive in the areas of concern such as visual quality, wildlife habitat, and recreation, however, long-term effects in these areas are designed to be positive. It is the Forest Service's intent and management direction to manage for the long-term, recognizing that some short-term adverse effects will result. When identifiable, these effects are softened through mitigation actions guided by administrative policies and procedures such as the National Forest timber sale contract, NEPA and NFMA regulations, and locally developed management Standards and Guidelines. On the Deschutes National Forest approximately 50 percent of the forest land area suitable for timber production has been allocated to non-timber uses, such as visual quality, wildlife habitat, and recreation. As a result,

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timber harvest projections have been significantly reduced. However, along with these recognized values and uses the welfare of the local economy must be considered. Based upon current information and public input, the proposed timber harvest level reflects the consensus "best overall blend" of land uses.

Timber Stand Improvement/Lodgepole Pine

COMMENT. The projected accelerated lodgepole harvest increases losses in deer and other wildlife habitat. Timber and wildlife habitat can be managed by using road closures, reduced road designs, public education, etc

RESPONSE: These proposals are all incorporated in the Final Forest Plan.

Firewood

COMMENT: Need firewood in supervised areas. Open all bug kill areas. Provide summer youth jobs to help clean up the forest. Cut down on upper management and payroll throughout the system. Reserve some firewood areas close to residential areas for senior citizens' exclusive use. Open more areas for firewood cutting.

RESPONSE: Efforts will be made to provide firewood close to residential areas. The entire Forest is open except areas identified on the permits which are closed for Administrative reasons or prior contract commitments and obligations. More free-use areas will likely be identified, however.

COMMENT: The firewood program has related problems, such as cutters making little roads everywhere, fire danger from smoking and power saws, increased vandalism, abuse of permit system.

RESPONSE: There are problems associated with the firewood program but the Forest will attempt to control with proper administration of the program.

COMMENT: Commercial firewood cutting was also an issue with some people. Small commercial firewood cutters wanted the Forest Service to charge more for permits to lessen the competition. Some were concerned about the amount of firewood being sold out of the area. Others wanted no commercial firewood cutting at all.

RESPONSE: Commercial woodcutting has a recognized place on the Deschutes National Forest. It provides a means to salvage surplus dead timber in a controlled manner from difficult access areas, more distant areas, and restricted-use areas. Commercial firewood cutting also provides a livelihood for a segment of the population and a service to those who cannot, or do not wish to, cut their own firewood. The sale of firewood out of the local area is not something the Forest Service can control. Firewood permit fees have been established according to the best estimate of the wood value and Forest Service administrative costs. Changing economic factors may cause future rate changes.

COMMENT: The firewood program is good. It is a reasonable way to salvage dead and dying lodgepole pine.

RESPONSE: The Forest plans to maintain an aggressive firewood program.

COMMENT: Offer more firewood on a non-competitive basis.

RESPONSE. The personal-use and free-use firewood programs are non-competitive. Commercial firewood sales must be sold competitively if there is a competitive demand.

COMMENT: Firewood cutting is part of Central Oregon's recreation. Alternative heating systems are too expensive. All lodgepole pine should be managed for firewood. It is critical to the community.

RESPONSE: It is the intent of the Forest to manage lodgepole pine for a continuing firewood supply of approximately 30 million board feet or 60,000 cords annually. Most public input regarding the

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planned 60,000 cords was positive and suggested this was an appropriate quantity. It is not feasible to manage all lodgepole pine strictly for firewood consumption when there exists significant market demands for lodgepole pine to be used for other product consumption.

COMMENT: Lodgepole pine has value beyond use for firewood. I sell lodgepole 1 X 4 and 1 X 6's in with #2 common ponderosa pine.

RESPONSE: The manufacture and marketability of lodgepole pine lumber has known values above that of firewood, which identifies it as a commercial species. Most of the commercial lodgepole pine not reserved for firewood will be managed for the commercial market.

COMMENT: Let the public have access to slash piles. It is a waste to burn them.

RESPONSE: Standards/Guidelines include direction for slash piles to be made available to the public for at least a year. In the last few years, areas made available for this use have increased as has the numbers of free-use permits issued. Best successes in this program have been in areas within 20 miles of town and along major, paved roads.

Reforestation

COMMENT: Economics of artificial regeneration are questionable when you consider the cost of operating a nursery, site preparation, and general administrative costs. Natural regeneration is the best economically.

RESPONSE: As described above, natural regeneration will be the preferred method except where it is not reliable.

COMMENT: Cut the lodgepole pine on the east side of the Fort Rock District and reseed with ponderosa pine.

RESPONSE: Where ecologically feasible and consistent with plant community guidelines, ponderosa pine may be used to replace currently existing lodgepole pine. However, preference given to one species over another must consider economics, long-term stand health and vigor and specific management area objectives. Strong consideration should be given to the maintenance of biological diversity. (See Species Preference and Biological Diversity in the Timber Management standards/guidelines.)

Insect and Disease

COMMENT: Control insects and disease by avoiding monocultures

RESPONSE: This idea has been applied on the Forest for at least 25 years. Specifically, what we have called "host selection" has been practiced to reduce the spread of dwarf mistletoes. Dwarf mistletoes are essentially infectious only to their own specific host species. By maintaining a mix of species, the spread of any specific dwarf mistletoe can be greatly reduced. The Forest inherited vast monocultures of lodgepole pine which were established before the turn of the century. These stands have been largely decimated by the mountain pine beetle epidemic of the last 10 years. Where appropriate, we have been replacing the previous pure lodgepole pine stands with new plantations of mixed ponderosa pine and lodgepole pine, or pure ponderosa pine. In areas where raising pure stands of lodgepole pine is overwhelmingly sensible, we intend to handle the bark beetle problem through stocking level control (thinnings) and rotation ages generally not exceeding 80 years.

COMMENT: Use an integrated pest management program.

RESPONSE: During the past decade the Forest's most severe insect and disease problem has been an epidemic infestation of mountain pine beetles. In 1981 the Forest put together a strategy to handle the problem (re: "Environmental Assessment - Lodgepole Pine Management", 8/31/87). In 1987 the strategy was modified to more adequately

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deal with current MPB activity (re: "Bark Beetle Infestation In Ponderosa Pine and Lodgepole Pine Environmental Assessment", 3/11/87, revised 8/12/87). The programs spelled out in these documents were Integrated Pest Management (IPM) programs.

COMMENT: There are two bat species which need old growth that are the only major nocturnal predators of insects in North America. Prey includes adult tussock moths, 3 species of bark beetle, and crane flies.

RESPONSE: Our old growth areas are intended to benefit many species of animals - bats included.

Pesticides

COMMENT: Use limited or no toxic chemicals.

RESPONSE: Chemicals are not used to control unwanted vegetation on the Forest. Pesticides are used only when there is no other reasonable alternative. The use of pesticides for the control of rodents or insects is strictly controlled and monitored, and used only where absolutely necessary.

COMMENT: Alternatives to pesticides are selective harvesting and manual brush control and manual, mechanical, or spot application to actively control invasive non-native noxious weeds.

RESPONSE: The Forest utilizes all these techniques.

Ponderosa Pine

COMMENT: Stands of older "yellow belly or red bark" ponderosa pine must be maintained throughout the Forest and not just limited to a few token areas.

RESPONSE: Stands of "yellow belly or red bark" ponderosa pine will be provided for as a result of several things. Where ponderosa exists in Management Areas 9 (Scenic Views) and 11 (Intensive

Recreation) the objectives are to produce and maintain large yellow barked trees. This will also be the case where pine stands are being managed for nesting habitat for bald eagles. Management Area 15 (old Growth) was established to provide additional stands of old growth and includes ponderosa pine. Some large ponderosa pine will also be left in areas where timber production is being emphasized as a result of uneven-aged management.

Tree Improvement

COMMENT: Existing resistance to the mountain pine beetle should be propagated.

RESPONSE: Forest Research has not shown the propagation of mountain pine beetle resistant trees to be scientifically proven or operationally efficient for Forest-wide applications. This process would necessitate applications of artificial regeneration or planting, which is not cost-effective in lodgepole pine. Future developments may surface which make this a preferred practice.

Old Growth

COMMENT: We need to preserve old-growth timber in recreational areas.

RESPONSE: Old growth will be protected in recreational and other areas that are not part of the timber base.

COMMENT: It is very important to keep off-road vehicles out of the designated old-growth area east of Black Butte Ranch in alternatives "E" and "G".

RESPONSE: We are implementing restrictions of off-road vehicle use in the area south of Black Butte. Off-road vehicle use will be restricted to specific areas when such routes are in compliance with management of Special Interest Areas.

COMMENT: The old growth in the Metolius Breaks area should be preserved.

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RESPONSE: Other Forest management areas (visual retention and partial retention, experimental forests, and undeveloped recreation) will help to retain old-growth areas that do not fall under an old-growth management area.

COMMENT. Favor locating some old growth accessible to the public

RESPONSE: Because of the flat terrain and abundance of roads on the Forest, public accessibility to some old growth is assured.

COMMENT. Retain the old-growth area on the north slope of Black Butte

RESPONSE: The top third of Black Butte will be managed as a Special Interest Management Area, where timber harvest is not scheduled. The management goal is to preserve and provide interpretation of unique geological, biological and cultural areas for education, scientific, and public enjoyment purposes.

COMMENT: Favor 8 percent old growth in Wilderness, Roadless, and O.C.R.A.

RESPONSE: Preferred Alternative will have 223,000 acres of old growth in Wilderness, OCRA and other management areas not specifically managed only for old growth. Additional forested land area will be managed for old growth

COMMENT. Favor maintaining old-growth ponderosa pine along Highway 20 north of Sisters.

RESPONSE: The area along Highway 20 west of Sisters is to be managed for scenic views (Retention visual quality objective). This means that large, "yellow-bellied" Ponderosa pine will be maintained over time

COMMENT: The following comments related to the same subject represent a variety of viewpoints. We should preserve old growth in Wilderness, Roadless and the Central Oregon Recreational

Area. Retention of old-growth ecosystems is favored in Alternative F. A minimum of 10 percent of the forested plant communities should be managed as old growth. Alternative A adequately protects old growth. Favor 8 percent old-growth ponderosa pine and other species. Favor 5 percent old growth outside of Wilderness, Roadless, and Central Oregon Recreation Areas. Alternative F is supported because of its emphasis on old-growth retention. Alternative C will retain 8 percent old growth. This, in combination with old growth in wilderness, is adequate.

RESPONSE: The Preferred Alternative (E) will maintain 326,400 acres of the Forest in an old-growth condition at the end of the first decade, of this approximately 32,000 acres will be in the old-growth allocation. The additional areas of old growth will be in wilderness, undeveloped recreation, spotted owl habitat areas, management requirements for mature and old-growth dependent species, research natural areas, Bend's watershed, winter recreation areas, and the Oregon Cascade Recreation Area. Also large diameter trees will be available in bald eagle management areas, visual zone and campgrounds. The Preferred Alternative indicates that adequate habitat will exist to maintain viable populations of all vertebrate species that occur on the Forest.

The Preferred Alternative provides more acres of old growth than Alternative A.

COMMENT: If large trees die in old-growth forest, why not harvest them instead of their being "wasted"?

RESPONSE: Certain wildlife species depend on the structural conditions found in old-growth forest. Standing and down dead trees are an important part of this kind of habitat, thus these dead trees are not "waste" to dependent animals.

COMMENT. Recommend less old growth than proposed

RESPONSE: The Preferred Alternative has the optimum level of old growth to provide viable

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populations of old-growth dependent wildlife with the least reduction upon timber yields.

COMMENT: Favor no geothermal development in old-growth areas.

RESPONSE: Standards/Guidelines developed for old-growth areas allows no surface occupancy for geothermal development

COMMENT: As the following indicates the comments relating on rather or not to harvest old growth varied from one extreme to the other. No more old growth should be harvested. It is too valuable a part of Oregon's heritage. Old-growth forests should be planned for and eventually harvested. Moratorium on old-growth harvesting. Allow no harvest of old growth. Let natural selection work within the old-growth stands.

RESPONSE: The Preferred Alternative provides the best mix of old-growth stands as well as stands managed for timber production. Natural selection will occur within the designated old-growth stands as well as in surrounding stands. Genetic diversity will be maintained over the forest landscape. Old-Growth Management Areas will have no scheduled timber harvest or other silvicultural treatment because the science for achieving desired forest structure and function is in its infancy. Management can be initiated at any later date when knowledge base is good.

COMMENT: Alternatives G and H should be selected because of their emphasis on wildlife habitat and old growth

RESPONSE: The Preferred Alternative was selected because it provided the best mix of forest product outputs, wildlife habitat conditions, and old growth. Approximately 326,400 acres of Forest stands will be retained as old growth in the Preferred Alternative at the end of the 1st decade. These areas provide habitat for old-growth dependent wildlife. The remaining forest will also provide habitat for other wildlife while providing timber outputs as well.

COMMENT: Do not log along Wickiup Reservoir.

RESPONSE: These stands are primarily lodgepole pine which is dying because of mountain pine beetle infestation. The trees will fall over within a few years after death. The Forest has decided to remove the dead and dying trees and regenerate a new stand.

COMMENT: The Forest should provide a diversity of vegetative communities. Do not manage the Forest as a tree farm.

RESPONSE: The Preferred Alternative identified different management intensities in different areas. Some areas (wilderness, spotted owl areas, old-growth areas, Bend watershed, and bald eagle areas) will have very few vegetative management activities. Other areas will be managed more intensively (within limits) to encourage tree growth. Prescribed fire will also be used to maintain vegetative diversity in nonforested areas. It is not the Forest's objective to become a tree farm.

COMMENT: Small pockets, as well as large, of old growth should be retained because of their value.

RESPONSE: The Forest is maintaining relatively large stands of old growth. Most are over 100 acres. The rationale is that larger stands will return genetic diversity better than small stands. Thus, rather than retain many small, scattered stands of old growth, the Preferred Alternative will retain fewer, but larger, stands of old growth.

COMMENT: Large areas of old growth need to be preserved to retain values for scientific, recreational, scenic, wildlife habitat, biological purposes, and for a diverse gene pool.

RESPONSE: The Forest recognizes the importance of these values and uses. The preferred alternative in the proposed Forest Plan has identified specific old growth areas which will be managed to retain old-growth characteristics. Other areas such as research natural areas, the Bend municipal watershed, spotted owl management areas, and

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some portions of wilderness areas will provide forested areas with old growth characteristics. Additional areas with some old-growth characteristics (large ponderosa pine) will also be retained in bald eagle management areas, and scenic view areas.

COMMENT: Retain old-growth stands in a well-distributed pattern to preserve a diverse genetic base.

RESPONSE: The Preferred Alternative identified specific management areas where old growth will be retained. Other areas, not specifically designated for old growth, will also provide relatively unmanaged forest areas which will provide a diverse genetic pool. The distribution of these areas was one of the major considerations in selecting old-growth stands.

COMMENT: More old-growth ponderosa pine needs to be retained and not limited to a few token areas.

RESPONSE: The Preferred Alternative was selected because it provided the best combination of old-growth and timber commodity outputs.

COMMENT: Desert fringe on the Fort Rock District should be managed for deer and old-growth ponderosa. Evaluate need for more guzzlers.

RESPONSE: The majority of the desert fringe will be managed to optimize deer habitat. Some old growth stands of Ponderosa will be retained, but deer cover requirements can be met in stands which are not old-growth stands. Distribution of guzzlers is being evaluated according to guidelines for habitat requirements. Addition of more guzzlers will be evaluated.

COMMENT: Maintaining old growth is one of the prime keys to protecting wildlife. Removing old growth impoverishes whole ecological systems.

RESPONSE: The Preferred Alternative will maintain 326,400 acres of the Forest in an old-growth

condition at the end of the 1st decade. This will contribute to providing habitat for viable populations of all vertebrate species found on the Forest.

COMMENT: Only 5 percent of each drainage will be maintained as old growth.

RESPONSE: The topography of the Forest is not characterized by drainages. 326,400 acres of forest will be in old growth at the end of the 1st decade.

COMMENT: A higher percentage of old-growth ponderosa in the allowable cut is favored.

RESPONSE: We believe the Preferred Alternative (E) provides the best combination of old growth and timber commodity outputs.

COMMENT: Support of old-growth areas east of Black Butte Ranch.

RESPONSE: The Forest has incorporated this concern into the preferred alternative.

COMMENT: Some areas of old growth would probably be subsidized by taxpayers to harvest timber.

RESPONSE: Generally, timber sales of old-growth timber make a profit for the Treasury, rather than cost more than stumpage pays.

COMMENT: Old growth is a timber "crop" and it should be harvested prior to the loss of this resource. Old-growth areas should be preserved. Old growth is a unique and essential part of the Forest. These areas are an "economic commodity" from a visual, recreational and wildlife basis.

RESPONSE: In old growth areas where the primary objective is not timber production the Forest management goals include: 1) providing habitat for viable populations of all vertebrate species currently found on the Forest and to maintain or enhance the overall quality of wildlife habitat, 2)

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to provide quality recreational opportunities in undeveloped Forest environments; 3) to provide visitors with visually appealing scenery; 4) to provide old-growth tree stands for preservation of natural gene pools and to contribute to the overall forest diversity.

COMMENT. Alternatives A, B, and C also preserve insufficient amounts of old growth

RESPONSE: One of the reasons for the Preferred Alternative (E) is it has a good mix of uses and still meets the needs of mature and old-growth dependent species

COMMENT: It is important to preserve more old growth on the Forest than is identified in the Forest Plan.

RESPONSE: Old growth will be in wilderness, undeveloped recreation, spotted owl habitat areas, management requirements for mature and old-growth dependent species, research natural areas, Bend's watershed, winter recreation areas, and the Oregon Cascades Recreation Areas. Also large diameter trees will be available in bald eagle management areas, visual zone and campgrounds.

COMMENT: The timber industry should utilize more second growth and we should preserve more old growth.

RESPONSE: The Preferred Alternative (E) would reduce the harvest of old-growth/mature trees and increase the utilization of second growth.

Wildlife & Fish

COMMENT: Management Area 2 (Research Natural Area) - more game grounds, not hunting.

RESPONSE: The Regional Forester and the Director of the Pacific Northwest Forest and Range Experiment Station may authorize management practices to control excessive animal populations. This would only be done in cases where these

populations threaten the preservation of some representation of vegetation for which the natural area was originally created

COMMENT: Ensure that the animals have sufficient habitat in wilderness to survive and prosper. Protect and conserve the Wilderness and its wildlife for the benefit of its inhabitants not just the recreational pursuits of humans or the economic gain its resources bring.

RESPONSE: The plan protects all wilderness areas designated in the 1964 and 1984 Wilderness Acts. Under the Preferred Alternative the Forest provides for the following management areas for wildlife: Bald Eagle, Northern Spotted Owl, and Osprey. In addition, the following areas provide habitat for wildlife that will not be entered for timber harvest: Research Natural Areas, Wilderness and Old Growth. The Wilderness allocation conserves wilderness.

COMMENT: Manage for species diversity and richness.

RESPONSE: The Preferred Alternative was selected because it provided for a mix of uses and still maintained species diversity. There will be a specific species numbers but all endemic species will be represented on the Forest.

COMMENT: Defer logging in the game species allocation surrounding Black Butte Ranch for three decades. Recommend no hunting zone adjacent to the ranch for public safety.

RESPONSE: The management areas around Black Butte Ranch have changed. In the Preferred Alternative the area east of the ranch is an old-growth area. Areas bordering the ranch on the north, west, and south are wood-forage areas which will be logged at some time in the future. Deferment of these areas from logging cannot be assured. However, visual quality of stands surrounding the ranch will be considered when these stands will be managed. Hunting on the Forest lands will continue unless agreements with ODFW are developed.

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COMMENT. Special uses which result in constant activity should not be allowed in deer habitat.

RESPONSE Project level interdisciplinary teams will determine mitigating measures for activities that would reduce habitat effectiveness.

COMMENT River Study suggests that Deschutes County should support periodic or seasonal road closures to minimize harassment conflicts on winter range and other sensitive wildlife habitat.

RESPONSE: Under the Preferred Alternative local roads may be closed on a seasonal basis and would be coordinated with the ODFW

COMMENT. Alternative "E" -- One of the primary concerns of ODFW regarding mule deer management in Central Oregon is the continuing encroachment on deer migration corridors between summer and winter ranges. Oregon Hunters Association shares this very critical concern and would ask that this question be addressed in their future land adjustment plans. Recent land exchanges between USFS, Sunriver, and the Inn of The Seventh Mountain have served to encroach on mule deer migration routes. We need to encourage all public agencies to preserve those migration corridors

RESPONSE: The Deschutes National Forest intends to study deer migration patterns in order to learn more about specific corridors used

COMMENT: Questions whether annual surveys of osprey nests will occur

RESPONSE: Monitoring of osprey habitat will seek answers to questions whether desired nesting population levels are being reached and whether reproductive success is adequate to maintain the population over time. Annual nest occupancy surveys and fledgling success surveys will be conducted cooperatively by the Forest Service and ODFW.

COMMENT: Deer and elk could be maintained or increased by careful management of logging areas, attention to calving grounds, winter ranges, migration routes, grasslands with respect to wildlife (not domestic livestock) and seasonal restrictions of activity in critical areas

RESPONSE: All of these management concepts are available for consideration by project interdisciplinary teams during timber sale planning

COMMENT. Marten populations seem to be in jeopardy.

RESPONSE: Habitat for the pine marten will be available in management areas emphasizing Old Growth, Wilderness, Undeveloped Recreation, Research Natural Areas, Spotted Owls, Bend Municipal Watershed, and the Oregon Cascade Recreation Area. Some Special Interest Areas, Wildlife Management Requirement areas, and big game cover areas located within other management areas will also provide suitable habitat. The proposed outputs of pine marten to meet the desired future condition of the Forest call for more than 1,285 pairs

COMMENT. More acres should be allocated to owls and ospreys from General Forest

RESPONSE: Under the Preferred Alternative, osprey nest sites located outside the Osprey Management Area will be maintained. Habitat for owls that use cavities will be maintained at 60 percent of maximum population potential. Other nest sites and habitat can be maintained in General Forest at the discretion of project interdisciplinary teams.

COMMENT: (We need more) consideration for wildlife

RESPONSE: The Preferred Alternative provides that habitat will be provided for viable populations of all vertebrate species found on the Forest

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COMMENT: Manage for 125 pairs of ospreys by leaving 10 trees per acre on each current active nest site.

RESPONSE: Under the Preferred Alternative all existing osprey nest sites and associated perch trees will be protected. With many nest sites being lost to natural causes, an artificial nesting structure program may be required.

COMMENT: Provide other wildlife management alternatives besides just dedicating wildlife habitat areas, in order to ensure adequate wildlife population levels.

RESPONSE: The Preferred Alternative provides that habitat will be maintained for viable populations of all vertebrate species found on the Forest.

COMMENT: Natural predators such as the cougar, bear, badger, coyote, and others should be encouraged to return to their niches in the ecosystem through identification and protection of their habitat

RESPONSE. Under Preferred Alternative, habitat for badgers and coyotes will be provided throughout the Forest. Habitat for cougars will be provided throughout the Forest where an adequate big game prey base occurs. Habitat for bears will be available in management areas emphasizing Old Growth, Wilderness, Undeveloped Recreation, Research Natural Areas, Spotted Owls, Bend Municipal Watershed, Winter Recreation, and the Oregon Cascade Recreation Area, some Special Interest Areas, Wildlife Management Requirement areas and big game cover areas.

COMMENT: The draft plan's clearcutting use is too heavy and works against species diversity and richness.

RESPONSE: The Preferred Alternative provides for maintaining habitat for viable populations of all vertebrate species found on the Forest

COMMENT: Prefers Central Oregon Alternative, "There are enough natural resources being destroyed now Leave the trees and wildlife alone "

RESPONSE: The Preferred Alternative provides for a system of management that attempts to maintain habitat for viable populations of all vertebrate species found on the Forest

COMMENT. The goshawk and great grey owl must receive protection in specific management areas.

RESPONSE: Under the Preferred Alternative goshawk nesting habitat is available in management areas emphasizing. Old Growth, Wilderness, Undeveloped Recreation, Research Natural Areas, Spotted Owls, Bend Municipal Watershed, Winter Recreation, the Oregon Cascades Recreation Area, and Wildlife Management Requirement areas Suitable goshawk nesting habitat may be available in management areas emphasizing osprey In addition, specific standards/guidelines protect nest sites and nesting activities at active nests Regarding the great grey owl, standards/guidelines have been developed to protect nest sites, activities at active nests, and the forested perimeter around meadows in which nesting owls are suspected to hunt.

COMMENT. If old-growth levels continue to diminish to levels below 12 percent, summer roost sites for bats may be limited and local populations may be reduced to dangerous levels.

RESPONSE The Preferred Alternative will maintain adequate Forest land in an old growth condition Also, large individual old growth trees will be available in other allocations such as visual and bald eagle management areas. The National Forest Multiple Use Sustained Yield Act mandates the National Forest system to maintain viable populations of all endemic populations. If research data suggests that present management does not meet the needs of a species, the Forest will take adequate protection measures

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COMMENT: *The Plan should be more specific with regard to wildlife and fisheries management.*

RESPONSE: The Preferred Alternative contains specific standards/guidelines for the following species: northern goshawk, Cooper's hawk, sharp-shinned hawk, mule deer, elk, bald eagle, spotted owl, osprey, great gray owl, pine marten, northern 3-toed woodpecker, wolverine, peregrine falcon, great blue heron, trout, waterfowl, and Townsend's big-eared bat. In addition S&Gs for maintenance of snags pertain to species that excavate cavities and species that are secondary users of cavities. Habitat for species associated with mature and old-growth tree stands will be provided for. Habitat for species utilizing dead and/or downed trees will be provided throughout the Forest.

COMMENT: The amount and emphasis on wildlife habitat improvement and maintenance is not enough in the preferred alternative compared to other alternatives.

RESPONSE: Wildlife habitat improvement and maintenance is an important part of the Preferred Alternative. Habitat is one of the uses within the multiple-use spectrum. The Preferred Alternative has standards/guidelines to protect habitats. It also has projected accomplishments for deer habitat improvement using prescribed fire and timber harvest.

Fisheries

COMMENT: Coordinate with other Government agencies in regard to stocking of fish, trapping seasons. Coordinate with BLM for winter range for mule deer.

RESPONSE: The Forest coordinate with ODFW on stocking of fish and has discussed beaver trapping in areas where beaver numbers are low. The Forest and BLM have met together with ODFW to discuss grazing on winter range.

COMMENT: *Develop a budget to employ at least one fish biologist at the Supervisor's Office and a biologist at each District.*

RESPONSE: A fish biologist is employed at the Supervisor's Office and Wildlife Biologists are employed at each District.

Deer Numbers

COMMENT: Maintain a high level of deer

RESPONSE: The Preferred Alternative meets the management objectives agreed to with the Oregon Department of Fish and Wildlife.

COMMENT: The deer population should be at a higher or lower level than in the Preferred Alternative. Tradeoffs between resources need to be recognized.

RESPONSE: The ODFW has developed population objectives for deer on the Forest. The Forest will work to meet these objectives through 1) manipulation of timber stands for thermal and hiding cover, 2) use of prescribed fire and mechanical manipulations of forage to improve forage condition, and 3) management of roads to increase habitat effectiveness. The Preferred Alternative provides a mix of resources and deer populations are an important part of this mixture

COMMENT: Increased harvest (departure) in lodgepole will not lead to increased deer numbers. Other factors may also cause a decline in deer numbers. Will the deer habitat simulation model adequately address all these factors?

RESPONSE: ODFW has developed population objectives for deer on the Forest. These objectives take into consideration factors which take place outside Forest lands. The Forest will work to meet the objectives on the Forest by manipulating habitat. The deer simulation model has the capability to address habitat effectiveness both on and off Forest lands. However, the model will be used as one tool of several to assess effects of Forest management on deer habitat. If Forest

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projections of regeneration of hiding cover are found to be too optimistic, the outputs projected in the plan will be reevaluated.

COMMENT: Reduce highway caused mortality of deer by widening the borrow pits.

RESPONSE: The Forest is developing a plan to address this problem along Highway 97 south of Bend. The plan considers visual quality, public safety, and deer movement across the highway.

COMMENT: High road density and high deer numbers are incompatible, how are they reconciled?

RESPONSE: The Forest did not select Alternative C. The Preferred Alternative will not develop as many areas with roads.

COMMENT: Hunters are willing to pay to camp in deer hunting areas.

RESPONSE: At present the Forest is not studying or considering charging hunters to camp on the Forest except in developed campgrounds where all campers are required to pay a use fee

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COMMENT: Increase game species management area above a minimum of 212,000 acres. Close one-third of existing roads to improve deer habitat

RESPONSE: The Preferred Alternative will manage over 200,00 acres for deer. Closure of existing roads will occur in cooperation with ODFW and in coordination with other resource activities and objectives.

COMMENT: Increase deer numbers by harvesting timber and increase fish numbers by improving water quality and by stocking. These increases will benefit bald eagle and osprey by increasing their prey base

RESPONSE: The Forest and ODFW are working together to develop objectives for managing fisheries. The Preferred Alternative addresses these objectives and projects increases in population levels of bald eagles. Osprey populations are projected to decline due to lack of suitable nesting sites as the number of large trees declines.

COMMENT: Alternative G doesn't provide enough campground development or a high enough deer population

RESPONSE: The Preferred Alternative objectives are higher for campground development and deer populations than in Alternative G

COMMENT: Deer and elk depend on old growth for protection during the winter. Populations will decline without old growth

RESPONSE: Cover (hiding and thermal) for big game is provided not only by old-growth timber but also in timber stands managed to meet cover requirements. Guidelines incorporated in the Preferred Alternative will ensure that adequate thermal and hiding cover, as well as other habitat quality parameters required for deer and elk, will exist to support the deer and elk populations

Elk Numbers

COMMENT: Under Alternative C the number of big game would increase (both deer and elk). These increases will bring additional recreational activities such as hunting, and animal watching, which will bring more economic benefits to the area

RESPONSE: The Preferred Alternative (E) provides for an optimum mix of commodities and amenities

COMMENT: Wintering elk is limiting to population size and is not present. Elk are present in the winter. We believe Forest will support more elk than are currently present and need to protect winter habitat.

RESPONSE: The Preferred Alternative (E) supports an increase in elk approaching 1,500 animals and new standards/guidelines will protect elk wintering habitat

COMMENT: Overpopulation of elk in Big Marsh basin is a concern

RESPONSE: The Preferred Alternative (E) does not foresee any overpopulations

COMMENT: Added revenue to local economy as a result of increased elk herds, huntable without damaging population

RESPONSE: The Preferred Alternative E addresses increases in elk numbers which will have revenue benefits to the local economy

COMMENT: Adopt O H A. management practices to protect elk. Elk winter on the Deschutes National Forest and there is an opportunity to provide for a herd of 2,500 elk. More protection needed than planned for in Big Marsh, along the Deschutes River and east edge of the Deschutes National Forest

RESPONSE: The Forest has formulated new elk management standards/guidelines which in many

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cases reflects public comments received on the draft plan

COMMENT: There are 500 to 700 elk on the Forest. Elk herd expanding rapidly as timber harvest proceeds. Elk wintering on west side and some on southeast side. Timber harvest under industries preferred will increase elk which will probably reduce mule deer.

RESPONSE: There are approximately 750 to 1,000 elk on the Forest. No evidence to date supports that expanding elk populations are displacing mule deer populations.

COMMENT: Create conditions for larger herds of deer and elk.

RESPONSE: The Preferred Alternative (E) addresses activities which will create habitat conditions which favor larger herds of deer and elk. The Forest will cooperate with ODFW to meet the ODFW population objectives.

COMMENT: About 35 elk use the Forest to access the river adjacent to the Inn of the 7th Mountain. Concern that further development would deprive elk access to the river. Concerned about narrowing of access as a result of recent expansion by Inn of the 7th Mountain.

RESPONSE: Strategic future planning will account for elk travel corridors to the river.

Winter Range

COMMENT: River study outlines concerns that O.H.A. expressed on the Deschutes National Forest plan. Study emphasizes need to preserve sensitive deer and elk winter range, and more importantly, deer migration corridors. Adjust land use practices and acquire lands where conflicts exist with migration routes.

RESPONSE: As we find sensitive deer and elk winter range, the Forest Plan states that we will

study these areas in regard to their significance as deer and elk winter range habitat.

COMMENT: Road closures are not adequate to prevent disturbance to wintering deer.

RESPONSE: Road closures are one tool that can be used to minimize disturbance to wintering deer. Another tool is an area closure. Enforcement is a cooperative effort with ODFW and OSP and the Deschutes National Forest.

Wildlife Diversity

COMMENT: Need more organic methods in order to preserve integrity of ecological cycles.

RESPONSE: The Forest Plan addresses the use of fire as a tool to reduce fuels and as a way to minimize natural fire patterns thus providing benefits to plants and animals.

COMMENT: Maintain biological diversity. Clearcutting cannot maintain biological diversity. Suggest alternative logging systems such as selective cutting.

RESPONSE: The Preferred Alternative (E) emphasizes use of uneven-aged management which when combined with old-growth management areas and research natural areas will provide for biological diversity.

COMMENT: If old growth remains then perhaps diversity could be maintained.

RESPONSE: Sounds reasonable.

Wildlife Habitat

COMMENT: Maintain Big Marsh as is.

RESPONSE: The Plan proposes the restoration of the Big Marsh area to its original condition.

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COMMENT. Wildlife habitat should not be used as an excuse to harvest timber. A balance is needed in Forest management.

RESPONSE. The goal of Forest management is to provide a variety of recreation, wildlife habitat, and commodities, one of which is timber. The preferred alternative includes habitat quality objectives for game and nongame wildlife. Some of these objectives can be met using timber harvest as a tool. However, timber harvest will also continue in areas where the objectives are to produce wood.

COMMENT. Clearcutting ruins nesting habitat for birds.

RESPONSE. Uneven-aged management is the generally preferred method of timber management in most of the Forest in the Preferred Alternative. This method will provide vertical and horizontal diversity for many wildlife species. In some forest types, even-aged management with clearcutting as one step in the process, will continue.

COMMENT: Cover for elk and deer is inadequate. Some areas should be free of logging activities for deer and elk security. Critical areas must be protected. Land exchanges must be examined for their impact on deer and elk. Migration routes must be protected.

RESPONSE: The Preferred Alternative will provide habitat to meet ODFW population objectives. To accomplish this, the Forest will manipulate forage and cover areas in accordance with standards/guidelines described in the Plan appendix. Road management is another factor which interacts with hiding cover quality to affect habitat quality. Some roads will be closed in cooperation with ODFW. Seasonal closure of logging activities, off-road vehicle travel, and site-specific prescriptions for sensitive areas will be analyzed as part of all project analyses. Communication with ODFW is part of the process in analyzing the impacts of any proposed activity which may affect deer or elk.

COMMENT. Manage Big Marsh, Wickiup, Crane Prairie and Davis Lake for waterfowl. The Deschutes National Forest needs more emphasis on waterfowl management.

RESPONSE. Standards/Guidelines will be followed to manage the riparian zone around the lakes and reservoirs. A plan for management of Big Marsh included waterfowl as one of the main resources. Waterfowl habitat improvement projects may be incorporated into the plan. On other lakes and reservoirs, waterfowl habitat improvement projects may occur in the future.

COMMENT. The Deschutes National Forest should have less building on forestland so wildlife habitat is maintained.

RESPONSE: Building on Forestland is done for several reasons:

1. Campground recreation facilities
2. Guard stations to house employees for fire suppression and other activities
3. Facilities for interpretation of Forest ecosystems and geology
4. Permitted activities such as drilling for oil, gas, and geothermal resources

All of these are part of Forest resource management. When specific projects are proposed, they are analyzed for their possible effect on wildlife. Standards/Guidelines for different wildlife species are followed while planning and implementing projects.

COMMENT: Road maintenance and construction should be planned to minimize effects of roads on wildlife.

RESPONSE. Standards/Guidelines have been developed for road densities and their effect on wildlife.

COMMENT. The Deschutes National Forest needs to consider the effect of fragmentation on old growth, waterways and meadows.

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RESPONSE: Research indicates that fragmentation of old-growth forests may jeopardize some wildlife species. This issue was not addressed in the Draft Plan. However, on specific projects, the possibility of maintaining corridors is investigated and evaluated in the NEPA document.

COMMENT: Cattle grazing should not be allowed in habitat management areas.

RESPONSE: Cattle grazing will continue as one of the multiple uses of the Forest. There are conditions under which grazing can improve forage for wildlife. Removal of previous year's growth or grass improved its palatability for deer and elk. Prescribed burning is also a tool presently used to improve forage for deer and elk. The Forest is planning to increase its use of fire to manage vegetation for big game.

COMMENT: On Davis Lake the Forest should allow trolling motors only, the grass should be regularly burned, and it should become a bird refuge.

RESPONSE: Small motors are allowed on Davis Lake. The State Marine Board, ODFW and the Forest cooperate to regulate use of motors on the lake. Grass is presently burned at irregular intervals to maintain its vigor. The Forest has no plans to manage the area as a refuge at this time.

COMMENT: Osprey, cattle and anglers interact to affect fishing opportunity.

RESPONSE: The Forest resources are managed to produce a variety of resources, including fisheries, range vegetation, and native wildlife species. Cattle grazing is managed to minimize its effect on fisheries. Habitat for osprey will be maintained to provide for a viable population on the Forest. Fisheries are managed in cooperation with ODFW to provide a variety of opportunities for anglers.

Snag-Dependent Wildlife Species

COMMENT: Firewood cutting should be prohibited on areas of the Forest below 60 percent MPP. Need management program to recover these areas.

RESPONSE: 40 percent maximum population potential is the minimum guideline on new harvest activity areas.

COMMENT: Plan for 28 to 30 pairs of bald eagles on the Forest.

RESPONSE: The Deschutes National Forest Plan will manage for 35 to 45 pairs on the Forest.

COMMENT: Snags and nesting areas are important all year long. Eagles do not necessarily leave the nesting site. I have seen them stay clear through the fall if feeding in the area is good. I see no mention of protection of feeding sites, such as small lakes. I do believe other raptors and owls and pine martens deserve specific protection (rather than general protection of small areas of habitat) as well as key indicator species.

RESPONSE: Standards/Guidelines pertaining to the maintenance of snags and nest sites are applicable year-round. The Bald Eagle Management Areas are available year-round. Habitat for accipiters, owls and pine martens will be available in management areas emphasizing Old Growth, Wilderness, Undeveloped Recreation, Research Natural Areas, Spotted Owls, Bend Municipal Watershed, Winter Recreation, and the Oregon Cascade Recreation Area, some Special Interest Areas, Wildlife Management Requirement. Habitat for indicator species will be provided in Management Requirement Areas.

COMMENT: Leave all snags in ponderosa pine for cavity nesters.

RESPONSE: Snags in Ponderosa pine are fairly scarce in many places on the Forest because of past management activities. There has been a snag policy in effect for over ten years to protect

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existing snags not in just ponderosa pine but all tree stands which include lodgepole pine, mixed conifer, and mountain hemlock. This policy includes protecting existing snags if they are not a safety hazard to people and providing for future snags in timber sales by leaving green trees to become replacement snags. Through time the number of snags in ponderosa pine will increase over what is currently present. The Plan reinforces this snag program plus implements a monitoring program to see how effectively it is working.

COMMENT Managing many nongame species' habitat at the 60 percent level is too low, while meeting the ODFW deer management objectives.

RESPONSE. The Preferred Alternative will provide habitat to meet ODFW population objective for deer. Habitat for 100 percent population levels for cavity-dependent and old-growth dependent species will be maintained in old-growth areas, management areas for old-growth dependent species, Bend municipal watershed, research natural areas, and forested portions of Wilderness areas.

COMMENT The Draft does not allow enough snags and logs to be left. Sixty percent is not enough. Recommendations were for potential population levels of 80%, 95%, and 100%.

RESPONSE The 40% of potential population level was retained in the Final. This level applies to areas where timber production is a primary objective and falls mid-way between minimum and maximum levels for cavity nesting species habitat requirements. It provides for adequate habitat for cavity nesters while not reducing wood production outputs significantly. Snag levels above the 60% level are provided for in other areas such as Research Natural Areas, Old Growth stands, undeveloped and winter recreation areas, the Oregon Cascade Recreation Area and to some degree in Wilderness.

Management Requirements (MRs)

Spotted Owl Management

COMMENT The 2,200 acre spotted owl management areas are too large/necessary.

RESPONSE Forest Service Regional policy calls for leaving 1,500 acres of suitable old-growth forest to provide nesting and rearing habitat.

T & E Plants and Animals

COMMENT It is the USFS's duty to increase the populations of key species (plants and animals) that are endangered, threatened, sensitive or very important to the ecosystem.

RESPONSE Regarding animals, habitat will be maintained for viable populations of all vertebrate species found on the Forest. T&E plants have not been found on the Forest. Standards/Guidelines are contained in the Forest Plan that would protect and manage habitat for the perpetuation of plants which are listed as threatened, endangered or sensitive.

Invertebrate Management

COMMENT. Would like to see more emphasis given to invertebrate diversity. Need to protect stagnant pond water and cull logs. Must maintain high levels of invertebrate populations to support the insectivory guilds. Invertebrates are the "cornerstone" of forest management.

RESPONSE: The Forest Plan speaks to protecting invertebrates such as ants which are major predators on forest insect pests such as western spruce budworm and Douglas-fir tussock moth. Any colony sites--whether in decaying trees and logs, or underground and marked by a mounded accumulation of fine twigs and other vegetation debris--will generally be maintained in the forest ecosystem.

Comment and Response to the Draft EIS Supplement, September, 1988.

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Two administrative appeals of Forest Service planning procedures resulted in a decision to supplement the DEIS. One appeal challenged the assumptions and display of the alternative which continued current Forest management.

A second appeal objected to the formulation and application of measures designed to protect wildlife "minimum management requirements" in the DEIS, currently "management requirements (MRs)."

The most detail comment was submitted by the Northwest Forest Resource Council. Elements of this comment are addressed below.

COMMENT: The Supplement lacks an evaluation of alternative means to meet Minimum Management Requirements.

RESPONSE: As explained in Supplement, alternative means to meet Management Requirements were not evaluated if the expected effects on Present Net Value or timber outputs were not significant. In many cases the effects are insignificant, (less than two percent). The two percent figure was chosen because it is very small compared to the reliability of the predictive models. When the effects of implementing the means or ways to meet management requirements were significant, they were examined and displayed in the Supplement.

COMMENT: The Supplement does not explain why the term "Management Requirement" rather than "Minimum Management Requirement" is used. This creates confusion.

RESPONSE: Appendix H of the FEIS was modified to explain the change. The change in title is more in keeping with the language used in the planning regulations (36 CFR 219.27). The change was intended to reduce confusion by being more consistent with the regulations.

COMMENT: MMRS have not been developed as an integrated part of the other planning steps; they were developed using a separate planning process. This violates 16 U.S.C. 1604(f)(1) which

states that one integrated plan must be prepared for each unit of the National Forest System.

RESPONSE: The following is added to Appendix H. The standards and guidelines found at 36 C.F.R. 219.27 are "the *minimum* specific management requirements to be met in accomplishing the goals and objectives for the National Forest System. These requirements guide the development, analysis, approval, implementation, monitoring and evaluation of forest plans" (Emphasis added.) These management requirements are an interpretation of the non-impairment standards of the National Forest Management Act (NFMA). Section 6 of NFMA required the Secretary of Agriculture to promulgate regulations specifying resource protection guidelines to insure species diversity, to insure timber is harvested only where there will be no irreversible damage to the soil, slope or watershed conditions and only where protection is provided for streams, lakes or watershed conditions and fish habitat. Management requirements in Forest plans are a detailed and specific interpretation of the 219.27 standards and guidelines. They are the smallest set of constraints possible and are limited to those specified by statute.

The methods (ways or means) of meeting these requirements are integrated in each step of the planning process including the analysis which indicates the most efficient means of implementation.

COMMENT: The MMRs were developed without public participation as required by NFMA and NEPA.

RESPONSE: As explained in the introduction to the Supplement (EIS, Appendix H), one of the purposes of the Supplement was to gain further public involvement. Management requirements are listed in 36 C.F.R. 219.27. The ways or means to implement these Management Requirements are analyzed in the Supplement. The Supplement provides opportunities for the public to comment on all aspects of the ways or means to implement Management Requirements. Comments from the public are considered in the development of the Final EIS. Prior to the development of the DEIS,

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considerable effort was spent by the Forest and others in developing and reviewing the biological habitat requirements for wildlife. Consultations were made with agencies or others who had scientific knowledge regarding wildlife management. In addition to that information contained in the MR appendix, Draft EISs included discussions of Management Requirements in Chapter 2 and Appendix B.

COMMENT: The MMRS should have been adopted through rule-making as were the NFMA planning regulations.

RESPONSE: As explained in Appendix H, the NFMA Regulations contained the Management Requirements in 36 CFR 219.27. The specific ways or means of meeting management requirements can be viewed as the Forest's specific expression to meet the congressional mandate in section 6 of the NFMA. The MR's and the ways to meet them constitute the agency's scientific determination of the minimum resource protection standards necessary to comply with the law.

COMMENT: The Forest Service failed to develop MMRS using an interdisciplinary process required by 16 U.S.C. 1604 (b)(1).

RESPONSE: The Forest ID teams identified the methods and assessed alternatives to represent the Management Requirements, as explained in Appendix B. Specialists in the resources involved identified biological requirements and alternative approaches to meet MR's. These approaches were recommended by the interdisciplinary planning teams and approved by the forest management team.

COMMENT: Management Requirements are imposed in every alternative in violation of NEPA.

RESPONSE: As stated in Chapter 2, the imposition of management requirements in all alternatives considered in detail is a NFMA Regulation requirement. One alternative, the No Change Alternative, has been developed which does not include Management Requirements. The No Change

alternative replicates management as it existed pre-NFMA.

COMMENT: The Supplement fails to disclose and discuss all major points of view on the impacts of alternatives.

RESPONSE: The appendix was amended to include the following kinds of statements: "There are a range of scientific opinions as to what the habitat requirements - in contrast to desirable habitat - are. These differences of opinion are disclosed. (note: this literature search and summary is being worked on by RO Wildlife)"

COMMENT: The Supplement fails to reveal the effect of MMRS on employment and county revenues.

RESPONSE: The intent of the Supplement is not to be an EIS but rather to evaluate the effects of those Management Requirements not already examined elsewhere. Two key indicators of environmental effects are examined: ASQ and PNV. Both are correlated to employment and county revenues: see Chapter 4 of the FEIS. In addition, Appendix B discusses the analysis including opportunity costs of imposing MR's in the analysis.

COMMENT: The Supplement does not describe why a different management requirement is used between Forests. "When the conditions are apparently similar on both Forests and the same legal requirement is being achieved. The example cited is use of different indicator species on neighboring Forests."

RESPONSE: Discussion of why each indicator species was selected is included in Appendix B. Generally, the indicator species are consistent from Forest to Forest around the region. Where differences exist, they are a result of different habitats or abundances of species.

COMMENT: The No Change Alternative does not represent the historical management practices.

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under the Forest's existing legal plans and, therefore, the effects of implementing the timber plan are not represented correctly

RESPONSE: As explained in Chapter 2 of the FEIS, the purpose of representing a No Change Alternative is not to represent "historical management practices. "Instead, it represents the continuing implementation of the existing Timber Management plan as amended but not modified by the NFMA regulations. Of course if this alternative were chosen as the selected alternative for the Forest Plan, either the NFMA regulations would need to be revised or the TM Plan would have to include NFMA regulations. In that case, this alternative would closely match the No Action alternative in outputs and effects.

The purpose of the No Action alternative is to represent the integration of all existing plans including the Timber Management plans together with NFMA regulations. Chapter 2 has been reviewed to assure clarity on these points

Comments From Individuals on the DEIS Supplement

COMMENT. One person would like to see the area between Century Drive and Waldo Lake managed as a roadless area. Abandon the road connecting Waldo Lake to Century Drive

RESPONSE: The majority of the Maiden Peak Roadless Area will remain undeveloped. The boundary of Management Area 12 was moved to the east in this roadless area because of public comment about the area.

Improving the Waldo Road to a two-lane standard would provide a shorter route for traffic traveling from the valley (Eugene) to the Cascade lakes Highway (46). It would also provide better access for recreationists in the Crane Prairie area to travel to Waldo Lake. However as the route became known to the public traveling between Eugene and Bend, it would become a bypass to the Highway 58 route during the snow-free months. The impacts and benefits of this option will be evaluated through

an environmental review process before considering improvement to a two-lane paved road (see The Rock Creek Accords, Chapter 4, Forest Plan)

COMMENT: A request was made for an insect species list, including aquatic insects, for the Deschutes N.F. Estimate population size for each species. Discuss impacts of managing for MRs on insect population, including:

Impacts of pesticide use on the Forest,

Impacts on aquatic insects from increased sedimentation;

Impacts on aquatic insects from proposed hydro-electric projects

Also examine population dynamic impacts, especially between insects and game bird and non-game bird species under each alternative. Discuss anticipated insect pest cycles.

RESPONSE Although these are valid concerns and the data would be good to have, it is far beyond the means of the Deschutes NF to gather information at this level of detail. The insect fauna of a forest are extremely diverse, and undergo dramatic changes, both temporally and spatially. To describe this insect community adequately would require expertise that is not currently available, and would be prohibitively expensive to do. Terrestrial ecologists, more likely to be associated with a research facility than with resource management in the public sector, carry out studies of this nature, but usually do so on a very limited scale due to the complexity of the task.

The study and description of aquatic insect communities is better done by a State fisheries agency than by the U. S. Forest Service which manages habitat rather than the organisms themselves. Information has been gathered by these experts (and others involved in research) for some stream systems, and much is known about the relative sensitivities of the different groups of aquatic invertebrates to stream contamination by both pesticides and sedimentation. The information from these studies would be too voluminous to include in this EIS, but would be

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heavily referenced in a site-specific environmental document for a particular project where the types of potentially detrimental effects are limited and readily identified

In general, little is known about the population dynamics of insects in the forest. Only the most prominent forest pests have been studied in sufficient detail to realistically address the factors that affect each stage of their life cycle. Such insects would include the Douglas-fir tussock moth, the western spruce budworm, and the mountain pine beetle.

The cycles of forest insect pests have been studied for decades, but there is still disagreement among the experts as to which factors are most important in regulating these population fluctuations. We know, for instance, that spruce budworm outbreaks have become increasingly more frequent in recent years and have reached more destructive levels than they did early in this century. These cycles will vary locally in accordance with an available food source, with prevailing weather, and with other regulating forces. It would be meaningless to speak of cycles without addressing a particular locality with its own unique set of circumstances that interact to produce the insect populations in that area. For defoliators and bark beetles alike, we expect there to be problems as long as we continue to have susceptible stands, and cycles, per se, are not meaningful.

COMMENT: Alternative E is weak in the following areas, not enough emphasis on preserving old growth stands, beyond saving "pockets", keep roadless area development and public access to a minimum; confine geothermal development to nonsensitive areas and carefully examine and supervise all permits; keep human interference on wildlife populations to a minimum

RESPONSE: Old growth allocations and areas with no harvest provide protection for the desired amounts of old growth for Alternative E. There will be no entry for timber harvest in roadless areas during the first decade of the Final Plan. All geothermal development will be subject to NEPA procedures. The Plan contains extensive direction to protect wildlife including conflicts with man.

COMMENT: The "No Change" alternative was not necessary. Too much emphasis on timber in relation to other resources. Black Butte should not be in the timber base

RESPONSE: As stated in the Supplement, the No Change Alternative was developed to facilitate comparison of past management, minus NFMA requirements for wildlife as displayed in the No Action Alternative, and the other alternatives. The Preferred Alternative allocates the upper third of Black Butte as Special Interest which does not include any programmed timber harvest. The lower portion is allocated to Scenic Views which does include timber harvest as long as the primary emphasis (visuals) is maintained. Without active management, the risk for a catastrophic fire on the Butte would be greatly increased.

COMMENT: The No Change Alternative mandates the destruction of the Deschutes National Forest. The Deschutes National Forest should be classified as a dedicated National Natural Preserve. All old growth forest should be included in a National Old Growth Sanctuary System.

RESPONSE: The No Change Alternative does not provide for the legal requirements of NFMA and would not be implemented. Dedicating the Forest as a National Natural Preserve would not provide for "multiple use" which the Forest is mandated to do. Management of old growth forests is being investigated.

COMMENT: Do not wish to see the Forest reduced to a short rotation tree farm. Emphasize production of large Ponderosa logs. Clear cut beetle killed lodgepole stands. Alternative G best provides for multiple use.

RESPONSE: The Plan does not emphasize short rotation tree farm management (see Chapter 4, Timber Management). Standards/guidelines for uneven-age management, visuals, and eagle areas will provide for large diameter logs. Beetle infected stands will be managed by the silviculture prescription that best meets the needs of the stand.

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**Response Letters from Elected Officials,
Federal and State Agencies,
and Indian Tribal Governments**



Department of Fish and Wildlife

OFFICE OF THE DIRECTOR

506 SW MILL STREET P O BOX 59, PORTLAND, OREGON 97207

April 1, 1986

H Mike Miller
State Forester
Department of Forestry
2600 State Street
Salem, Oregon 97310

Dear Mike

The Oregon Department of Fish and Wildlife staff has reviewed the Deschutes National Forest plan documents and has attached comments to this letter. The comments were prepared according to guidelines approved by the Oregon Fish and Wildlife Commission.

There are few fish habitat related problems on the Forest. The Forest has been responsive to habitat improvement and enhancement needs, and the quality of fish habitat in lakes, streams and reservoirs is high. More could be done, however, and the plan documents should discuss opportunities for additional fish habitat improvement. The maintenance and enhancement of quality angling experience is paramount in the Central Oregon area and we expect continued good working relationship with the Deschutes National Forest to provide high quality angling experience.

We have some major concerns for future wildlife resources. The concerns are related to the effects of an extensive road system on wildlife use of the Forest and on hunting seasons, maintenance of old growth ecosystems, rapid harvest of lodgepole stands; deer population projections and the potential for funding deer habitat improvements. These concerns are discussed at length in the attached comments. The Department seeks to have these concerns addressed in the final plan.

While we offer extensive comments regarding major concerns with wildlife resources, those comments should not overshadow our positive opinion of the plan and the efforts of the Deschutes Forest in carefully assembling a comprehensive plan. The alternatives are well thought out and the preferred alternative provides the most reasonable mix of potentially conflicting uses. We will, however, withhold our endorsement of the plan until such time as our major concerns are addressed.

Sincerely,

John R. Donaldson, PhD
Director

jds
attachment

OREGON DEPARTMENT OF FISH AND WILDLIFE COMMENTS ON DESCHUTES NATIONAL FOREST DRAFT ENVIRONMENTAL IMPACT STATEMENT AND PROPOSED PLAN March 31, 1986

MAJOR ISSUES

Road Management

The conflict between roads and wildlife is one of the major issues the Department identified in reviewing the plan documents. The adverse effects of roads and consequent vehicle use on wildlife has been documented widely throughout the western states. The proposed Deschutes National Forest plan has some discussion of road management but more discussion is needed leading to a comprehensive road management plan that will assure secure habitat for wildlife, and will maintain the quality of hunting experience.

The Deschutes Forest has 4.8 miles of roads for every square mile of land that is not wilderness or roadless. The lodgepole working group recommends that a road density of 2.5 miles of road per square mile of land would provide 90% habitat effectiveness for the road variable within the mule deer model. It is apparent that road densities are already high on the Deschutes Forest, that wildlife populations are not able to fully utilize available habitat and that a road management program is needed.

Forest roads are necessary for timber management but roads and vehicle traffic have serious adverse effects on big game range carrying capacity and on hunting seasons. The plan projects maintenance of deer numbers in compliance with ODFW management objective (MO) levels and an increase in the numbers of Roosevelt elk. If the road system that will result from lodgepole timber harvest allows free and easy vehicle use, then the extensive cutover forage producing areas cannot be fully utilized by big game animals that require a more secure habitat.

In 1984, the Department conducted a series of elk workshops around the state. The purpose of the workshops was to get elk hunters opinions regarding Oregon's elk hunting. The biggest issue identified among 5,000 hunters related to problems caused by too many roads.

Hunting seasons are affected by the dense road network when it allows high mobility and a wide distribution of hunters to rapidly find and harvest the surplus big game. An extensive road system allows a hunting season harvest to occur in a matter of hours instead of days.

There are techniques available to mitigate the adverse effects of roads on wildlife. The recommended techniques include: limit vehicle use of roads year around or seasonally, decrease the proportion of main roads and increase the proportion of dead-end low standard roads; obliterate roads after the initial use; leave a vegetative screen along roadways; institute area closures, windrow slash parallel to roadways and physically block vehicle access. There may be other techniques more applicable to the Deschutes Forest but the objective of road management should be to provide secure wildlife habitat and spread deer harvest throughout the season.

Deer Habitat

The Department has concerns with deer populations predicted in the alternatives, funding for habitat improvements and the effect of rapid lodgepole harvests

The Department has established a mule deer population management objective (M.O.) for the area of 24,850 deer. Alternative A, G and H project deer populations lower than that objective and therefore do not meet our management objective. Alternative C and D project deer populations significantly higher than our management objective level.

The Department does not endorse deer populations higher than the M.O. level. Most mule deer that use summer ranges on the Deschutes National Forest spend a portion of the winter months on ranges off the forest.

The alternatives with highest timber harvest levels also project highest deer numbers. The deer population projections are predicated on habitat improvement projects to upgrade forage quality and interspersed with cover.

Habitat improvement does not result directly from timber harvest but is dependent upon funding of specific projects in future years. The Department believes funding for timber harvest particularly in the lodgepole area should be contingent upon funding for wildlife habitat protection and improvement so if timber harvests increase then wildlife habitat projects also increase proportionally.

Throughout the Reviewer's Guide, DEIS and Proposed Plan, the present mule deer population is listed as 20,300. That number is accurate for 1984 but the population actually fluctuates from year to year, depending upon weather severity, hunter success, reproductive success and other factors. It would be more accurate to use the five-year average annual deer population as reflected below:

1984 -	20,300
1983 -	20,530
1982 -	23,500
1981 -	26,450
1980 -	25,600
5-year average =	23,276

Riparian Habitat

The Goal Statement for riparian areas on Page 50 of the plan needs to recognize the importance of wildlife habitat in riparian zones. The goal reads "to protect the unique and valuable characteristics of riparian areas and to protect or improve water quality and fish habitat." While the goal would meet fish habitat needs, wildlife values need to be recognized as well.

Also on Page 50 of the plan, Standards and Guidelines relating to streamside management units (SMU), we find that SMU's manage only for water quality and fish habitat protection.

Riparian zones are the most critical wildlife habitat in the forest environment because more species use that habitat type and in higher densities than in any other habitat type. Wildlife habitat values should be recognized and maintained in Streamside Management Units.

Page 51 of the standards and guidelines relating to Streamside Management Units says riparian areas should be managed to maintain upper streambanks in a stable condition along at least 80% of the stream's length. The entire streambank is important to fish habitat and needs to be maintained.

There is a major problem in the Deschutes River between Wickiup Reservoir and Benham Falls, a distance of about 46 miles, where fluctuating flows as a result of irrigation releases are causing rapid and severe erosion on the banks of the Deschutes River. Severe flow fluctuations during summer and winter combined with freezing and thawing of the loose pumice streambanks causes sloughing. The erosion from fluctuating flows has silted in the gravel spawning bars, and has washed out woody debris, and instream structure. The stream channel has become wider and shallower, resulting in a loss of winter habitat for fish.

The erosion problems that result have made it difficult to maintain a wild brown trout fishery. Brown trout habitat losses cannot be mitigated through a hatchery program because hatchery brown trout cannot survive in the river. Spawning area is a limiting factor for wild brown trout and presently they can spawn only in tributaries to the Deschutes. The only way to maintain a wild brown trout fishery in the Deschutes River is to restore the habitat and to protect the spawning tributaries, Fall River and Browns Creek.

The plan does not provide protection of lower streambanks, therefore allowing the erosion to continue to degrade the quality of the Deschutes River between Wickiup Reservoir and Bend.

The Department recognizes the difficulties in achieving streambank stability and rehabilitation but believes the Forest should address protection of the Forest-owned land along the Deschutes River.

In the Sparks Lake area and tributaries, overgrazing has lowered the carrying capacity for wild brook trout production. There are unused allotments on the forest and the Department suggests moving cattle from Sparks Lake to one of the unused allotments on the forest.

There are isolated overgrazing problems in the upper Deschutes, Little Deschutes, and Crane Prairie areas that relate to grazing administration. The plan indicates that riparian zones are generally in good condition. The final plan, however, should display an inventory of riparian habitat on the forest and list habitat restoration targets.

Northern Spotted Owl

The Deschutes National Forest should manage all spotted owl habitat in a manner consistent with the Spotted Owl Management Plan. The Forest projects some timber harvest in spotted owl management areas. This is inconsistent with the spotted owl management plan which precludes salvage of dead and down material within SOMAS.

Old Growth

Page 113 of the Plan lists the goal for old growth management and the prescriptions that may be applied. The prescriptions refer to meeting objectives, i.e., "timber may be harvested to meet old growth objectives." However, the old growth objectives are not listed.

The prescription for wildlife says emphasis will be to provide (1) large trees, (2) standing and downed dead trees, and (3) vertical structures within the stands. That prescription is vague and provides the reader with little information on which to evaluate the merits of the old growth, wildlife prescription. For wildlife habitat values in old growth stands, it is preferable to consider old growth as an ecosystem that evolved naturally without human intervention or disturbance. The recognition of old growth ecosystems has been relatively recent. There is much about old growth that is not known today and is the subject of extensive research. At this time we do not know that old growth ecosystems can be managed at all and still maintain the integrity of the ecosystems. The management of old growth through timber harvest can at best be regarded as experimental. Since the old growth system evolved naturally and we are not certain that timber harvests will maintain or enhance these ecosystems, it is best to leave the stands undisturbed until more information is gathered. The best available information suggests that to maintain old growth ecosystems, from 5 to 15 percent of the forest in each major plant community be dedicated to old growth ecosystems and should be well distributed by slope, aspect and elevation.

The Department recommends the Goal for old growth be rewritten as follows: "Goal To provide naturally evolved old growth ecosystems for (1) preservation of natural genetic pools, (2) habitat for plants and wildlife species associated with old growth ecosystems, and (3) contributions to the diversity spectrum."

Lodgepole Harvest

The current direction would harvest all lodgepole affected by the mountain pine beetle epidemic in 40 years; other alternatives are as follows: Alternatives C and D/10years; Alternatives E and F/10-20 years, Alternative G/30 years, Alternative H/20-30 years

For wildlife, the longer time to harvest the lodgepole are preferred for the following reasons:

- allows improved habitat diversity over time and area
- easier interspersed cutting units
- can better protect meadow habitat
- in the long-term, will allow a better mosaic of cutting units
- can provide visual screens along roadways for hiding cover
- better hunting experience
- travel lane corridors can better be maintained
- more snag, dead and down habitat

Adverse effects of longer rotation include

- road system must be maintained for repeated entries
- down dead lodgepole could hinder terrestrial animal movement

Harvest of lodgepole at current or faster rates could well result in a short-term increase in forage that will boost deer and elk numbers. The long-term effect would be a greater overall loss of habitat quality far outweighing short-term benefit. As the lodgepole stands are harvested, there would be an increase in forage and deer. As the harvest areas become reforested forage is replaced by cover. Deer need both forage and cover so if the lodgepole is harvested rapidly, say in 10-15 years, then there would be extensive stands of cover but no forage in about 25 years. Those conditions would persist until rotation age, about 80 years. It would be preferable to harvest the lodgepole at a slower, more sustainable, rate throughout the rotation age unless funding for forage improvement can be assured.

To meet the big game need for forage and cover, 40% of the forest should be in cover, well distributed over the summer range. This criteria cannot be met in lodgepole stands due to the mountain pine beetle epidemic resulting in massive die off of lodgepole. The Department understands the concept that the trees are going to die regardless of management activity and may as well be harvested. Lodgepole stands are being harvested in large units. The Department believes mule deer needs in the lodgepole stands will eventually be met as lodgepole stands are managed according to habitat needs. The needs are travel lanes, security from disturbance, fawning and calving cover and harvest rotations resulting in a mosaic pattern rather than large areas clearcut at any one time. Such management schemes would meet deer population needs in future lodgepole stands.

No new entries should be made adjacent to harvested areas until regrowth in the harvested areas meets hiding cover criteria. The Deschutes National Forest standards and criteria regarding cover needs are adequate.

ADDITIONAL COMMENTS AND SUGGESTIONS

Bald Eagle

The present population on the forest is 20 pair of bald eagle and is projected to increase to 45 pair in the fifth decade.

Deschutes National Forest plan meets federal guidelines for the management of bald eagle habitat, including habitat monitoring to determine the effectiveness of the plan action.

Peregrine Falcon

The Deschutes National Forest has habitat for peregrine falcons, but no bird nesting has been documented recently. There was a pair of peregrines near Benham Falls in the past and there have been miscellaneous sightings of birds. The monitoring plan for the forest would inventory the presence of populations in the future.

Snags

All alternatives meet or exceed 60% of the potential for snag dwelling species, except for Alternative C which proposes a lower level. Snag densities meeting or exceeding 60% of the potential can be expected to maintain viable populations of snag-dependent wildlife. The Forest has a monitoring program that would insure evaluation of effectiveness of snag retention. The Forest has a program to preserve snags and to protect them from slash burning and woodcutters, but there is no inventory to determine the level of success at maintaining snag trees. The plan needs to display an inventory of existing snag densities on the forest.

In years past timber management did not routinely provide cavity nesting habitat snags. On forests where timber harvests have occurred, cavity nesting habitat has been found deficient. The Deschutes National Forest should display an estimate of condition on lands already harvested. The protective standard to maintain habitat at 60% of potential is adequate, assuming that no lands have been harvested. The standard may be inadequate if substantial harvest has already occurred and snag habitat is deficient on those acres harvested.

Hardwoods and Minor Conifer Species

There are small groves of quaking aspen, deciduous and other minor species on the forest that should be preserved wherever they occur in order to maintain habitat diversity. Those habitat types are not specifically addressed in the plan.

Meadows, Freshwater Wetland and Natural Openings

On meadows larger than 30 acres, the Forest proposes to affect no more than one-third of the vegetation surrounding the meadow during harvest operations. The Department believes the standard would not adequately maintain wildlife use of meadows. Removal of one-third of the vegetation would expose in many cases an entire meadow to view and would preclude wildlife use. Vegetation at least one site distance wide should be maintained around a meadow with no more than one-third the vegetation outside that distance affected by harvest operations.

There are many meadows smaller than 30 acres on the Deschutes National Forest of extremely high value for wildlife resources. According to Page 166 of the EIS, less than 1% of the land base in the Deschutes National Forest is in meadows, many of which are less than 30 acres. Since many of the meadows are small ones and represent a minute portion of the land base, vegetation around all meadows should be protected in the same manner as described above.

Geothermal Resources

ODFW recommends that leases for geothermal exploration be limited to the non-sensitive areas on the forest as provided in Alternatives G or H. Sparks Lake and Newberry Crater are highly important recreational use areas with correspondingly high fish and wildlife values. Geothermal exploration, and in particular geothermal resource development, could be incompatible with

existing recreational use. The geothermal development such as road construction, powerline rights of way, noise and potential water quality effects could conflict with recreational and wildlife use of those areas. Development plans for individual projects should be designed to minimize impacts.

Oregon Cascade Recreation Area

ODFW is concerned that the prescriptions on pages 111-112 of the Proposed Plan are not stringent enough to protect wildlife resources. Of particular concern is the Big Marsh area where the forest acquired private lands for wildlife purposes. Further road development motorized recreation and unregulated firewood harvest would jeopardize wildlife use of the area. There is a need to maintain habitat improvement options.

Roads: Windigo Pass, Irish-Taylor, Todd Lake-Three Creeks Lake and Waldo Lake

ODFW recommends the above roads not be developed beyond their current capacity. The roads bisect areas presently unroaded and go through sensitive habitats used by species such as elk and wolverines. Adjacent small lakes are already heavily used in some cases.

Aquatic Habitats

In general, the stream protection on the Deschutes National Forest is very good and there are not many fish habitat problems. Soil types and topography mitigate the effects of timber management. Many of the streams are spring fed so water temperatures are easily maintained. The stream channel problems caused by fluctuating flows in the Deschutes River below Wickiup Reservoir (documented elsewhere in ODFW comments) could be reduced by plugging the leaks in Crane Prairie Reservoir. Water saved to augment low flows in the Deschutes River would result in less streambank exposure and subsequent erosion.

ODFW recommends leakage from Sparks, Hosmer and Davis lakes also be plugged to maintain water level and maintain fish production.

Alternative C proposes timber harvest activities encompassing Rosary and Maiden lakes. ODFW would prefer a more restrictive designation than Alternative C. The other Alternatives afford sufficient protection of those two lakes.

There is little discussion on fisheries in the planning documents, maybe due in part to the forest's history of responsiveness to habitat and fishery needs. Work on the Metolius River, replacement of Brown Creek culverts and Deschutes Bridge are examples of cooperation.

Regarding scenic, wild or recreational rivers, ODFW supports stream designation that allow fish habitat improvements. Streams such as the Deschutes system, Metolius and Big Marsh would be best managed if designated Recreational Rivers rather than a more restrictive designation. The Plan should emphasize habitat improvements at Big Marsh.

DISCUSSION OF WILDLIFE/STANDARDS AND GUIDELINES/PAGE 55-56 IN PROPOSED PLAN**Dead and Down Woody Material**

Chapter 4, Standards and Guidelines, Page 56 of the plan discusses species associated with dead and down logs. The standard says "A minimum of two dead and down logs per acre should be left in areas where timber management activities will occur". The standard should be strengthened to say that dead and down logs will remain in areas where timber management activities will occur.

Pileated Woodpeckers

Protective standards for pileated woodpeckers may need to be revised in the Standards and Guidelines. This species is found only in mixed conifer old growth forest. It has a large territory varying between 100 and 600 acres depending upon the literature reference. The proposed old growth areas may be too small to be suitable for pileated woodpeckers. The Plan assumes that reserved old growth will assure viable populations of pileated woodpeckers. The assumption may be flawed. We recommend further study to determine if the protective criteria need to be different from that for woodpeckers in general.

Turkeys

The FEIS should contain a discussion of turkeys and turkey habitat. Birds were introduced in 1951 and have increased in number. .

Wolverine

The standard proposed for wolverine needs to be strengthened to reflect that wolverines are, in fact, present on the forest. Sightings have been recorded for 20 years, not all of which were in wilderness areas. Wolverine need protection from humans and development activity. The standard says "attempt to verify the presence of the species." We recommend the standard be changed to say "continue to document the presence of the species."

Transportation

The standard for road management does not adequately tell the reader if or how roads will be managed to assure that wildlife will have secure habitat. The standard has phrases like "...will consider..." "Road closures can be used..." "Closures may be.. ". We recommend the standard be clarified to indicate that road management to protect wildlife values will in fact occur. See also the related comments on road management.



Department of Transportation

PARKS AND RECREATION DIVISION

525 TRADE STREET SE., SALEM, OREGON 97310

April 22, 1986

Bob Brown
Oregon Department of Forestry
2600 State Street
Salem, OR 97310

Dear Bob:

Attached is our staff review of the DEIS for the Deschutes National Forest. We have reviewed the draft plan with an emphasis on its impact to the Division's programs - parks, scenic waterways, trails and to recreation in general. We have relied on the 1983 Statewide Comprehensive Outdoor Recreation Plan (SCORP) endorsed by Governor Atiyeh and the 1983-89 Oregon State Park System Plan adopted by the Oregon Transportation Commission.

Our review paid special attention to the plan's treatment of providing for recreational diversity (as shown by the Recreation Opportunity Spectrum) and the protection of scenic qualities required for quality recreation experiences.

The Deschutes National Forest is the primary provider of outdoor recreation opportunities in the Central Oregon area. The local economy is marketing these opportunities as part of its economic development plan. The significant population growth in past years has been tied to the area's attractiveness and recreation opportunity. In order to continue to meet the expectations of the area's residents, visitors and tourism-related economic interests, the Forest must stabilize its recreational offerings and continue to maintain and improve, where appropriate, its recreation facilities. No other public agency can effectively move in to fill the future demands.

We are particularly concerned with the erosion of dispersed recreation, especially with regards to primitive and semi-primitive recreation opportunities. We also object to any elements that would reduce or eliminate services at existing developed recreation sites. The division agrees that wild and scenic "recreation" classification for the Deschutes and Metolius above Bridge 99 is appropriate. However, consideration of "scenic" status for the Metolius below Bridge 99 to Lake Billy Chinook may be more appropriate. The current plan gives no consideration to the Fall River though it is considered a candidate for state designation. We would support management of Fall River that would maintain the future options for state designation.

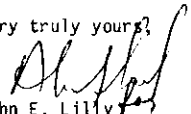
Bob Brown
April 22, 1986
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We are greatly concerned with the economic assumptions made by FORPLAN. Recreation values were consistently underestimated. We would recommend that the State Economist be asked to review these assumptions as they apply to the Central Oregon/Deschutes National Forest area. If recreation values are refigured, a new array of alternatives might result which depict recreation more favorably.

In addition, we would suggest that the Forest Service staff contact the Deschutes County Planning Department for current information on the economic value of the Deschutes River and its tributaries. It is our understanding that this data shows the river setting and recreation opportunity as highly valued resources to residents and non-residents.

We are pleased to offer these comments. If you have any questions please contact Don Eixenberger (378-6597) or myself (378-5000).

Very truly yours,


John E. Lilly
Assistant Administrator

JEL:jn
9750C

Attachment

cc: Dave Talbot
Mike Weland, ODFW



STATE OF OREGON
Parks and Recreation Division

INTEROFFICE MEMO
378-6597

TO Files DATE April 14, 1986

FROM Don Eixenberger
Research Analyst

SUBJECT Review of Deschutes National Forest Plan, 1986

Recreation

The U.S.F.S plays a major role in the provision of recreation in the State of Oregon. It is an indispensable element in maintaining a diverse quality of recreational opportunity which will gain even greater importance as the state's population grows and as out-of-state tourism plays an even more crucial role in the state's economy. For example, federally administered lands provide over 30% of the state's campsites and picnic tables, 50% of its hiking and bridle trails and 60% of its ORV areas. Thus, while the plan states that the U.S.F.S provides 7.5% of outdoor recreation nationally, in Oregon, it is likely 3 to 4 times that amount if not more.

In terms of recreation, the Deschutes is one of the more important forests in Oregon. Its diversity of opportunity throughout all seasons of the year and its dramatic visual settings make it a prime attraction not only to Oregonians, but also to out-of-state visitors. The focus of Oregon State Parks then is guided by two main concerns the maintenance of diverse high quality recreational opportunities as exemplified in the U.S.F.S.'s Recreational Opportunity Spectrum, and the protection of those scenic qualities visitors have come to expect in their forests.

General Recreational Issues

Overall the plan adequately describes the general issues in the Deschutes National Forest. What is lacking is adequate description and planning for specific recreational activities. There is little information, for example, on what future demand there might be for such things as winter sports, dispersed or developed; or for semi-primitive activities, both roaded and non-roaded, or on how that demand is to be met.

Developed Recreation

The plan places emphases on the development of more campgrounds, picnic areas and boat ramps. These emphases may be misplaced. Analyses of the 1983 Statewide Comprehensive Outdoor Recreation Plan indicates an oversupply of these facilities in Deschutes, Jefferson, and Klamath

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Counties through the year 2000. There is an oversupply of 1,243 campsites, 2,457 picnic sites and 120 boat ramps. Supply of these facilities then is amply sufficient to meet demand through the year 2000.

We have concerns about any reduced service levels for existing campsites and day use areas, be they fee or non-fee areas. Such reductions run counter to the goal of maintaining high quality recreation opportunities.

Dispersed Recreation

Most dispersed recreational activities are dependent upon the primitive and semi-primitive elements of the Recreation Opportunity Spectrum. These are largely provided by the remaining roadless areas in the forest. But as the plan states "However some aspects of the recreation opportunity spectrum, are becoming more difficult to retain

For example, as remaining roadless areas are either designated as wilderness, or roaded and developed for other uses, there are fewer opportunities for the semi-primitive and primitive recreation experiences outside of wilderness areas. Related to this is the idea that as more and more roadless areas are either developed or designated as wilderness, future generations will have fewer options regarding how to best manage them to meet changing needs."

The recreation value of these roadless areas is extremely diverse. They are important settings for such activities as hunting and fishing, primitive camping and hiking, winter nordic touring, and wildlife observation. Some are appropriate for management as semi-primitive roaded activities. Above all, these areas provide those primitive and semi-primitive opportunities to those elements of the population unable to utilize wilderness areas. They also provide in many areas the large scale visual profile of a mature forest which both Oregonians and out-of-staters value. Indeed, the quality of both developed and dispersed recreational activities in the forest would be lessened by their diminishment. They are indispensable to the expectations visitors have of the character of the forest.

Of the 1,640,412 acres of the forest, the plan allocations for undeveloped recreation range from 1,400 acres or .01%, to 133,700 acres or 8%.

There is no definitive information in the plan to determine how much undeveloped recreation land will be needed in the future. Eight

*Draft Environmental Impact Statement Deschutes National Forest, Appendix A, 1986, p. 198

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percent may likely be insufficient to meet demand. What is clear is that lands providing such opportunities continue to diminish and once developed, cannot be replaced.

In the interest of recreational diversity we urge the retention of the current roadless areas to supply the primitive and semi-primitive aspects of the Recreational Opportunity Spectrum.

Supply and demand by activity type are not contained in the plan. The Statewide Comprehensive Outdoor Recreation Plan currently analyzes walking/hiking and bridle trail needs which are appropriate to undeveloped recreation. In the previously mentioned three county area, there will be a need for 65 more miles of walking/hiking trails and 44 more miles of bridle trails by the year 2000. That is not to say that the forest should provide all these additional miles. Given their current role of providing 50% of these trails, planned addition of at least 30 miles of walking/hiking trails and 20 miles of bridle trails by the U.S.F.S. should be sufficient to meet demand.

Further creation of nordic ski trails seems warranted given the continued growth of that activity. We are also supportive of semi-primitive motorized areas where feasible.

We second ODFW's concern about management to maintain riparian areas. Current standards and guidelines call for managing 80% of the streams length in stable condition. The entire streambank is important to riverine recreation and needs to be maintained.

Wild and Scenic Rivers

The preservation and protection of free-flowing rivers with outstanding scenic and recreational values is a major goal of the Statewide Comprehensive Outdoor Recreation Plan. This issue also is reflected in the Oregon State Parks System Plan (1983-89) reiterating the division's responsibility in the continued development of the Oregon Scenic Waterways system.

Our concern in the Deschutes National Forest is impelled by the continued demand for river dependent dispersed recreation throughout the state. Observations of boating activities alone suggest that growth far exceeds the states population growth. For example, boating on the Deschutes below Pelton has been increasing at 5 to 10 percent per year. Whitewater boating within the forest has increased dramatically, too. Our expectation is that as the more popular streams become more crowded, or restricted in use (such as the Rogue River), other streams, now perhaps receiving only moderate use, will receive increased demand.

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It has become a truism that free-flowing rivers and their surroundings are a prime magnet of much outdoor recreation. This is particularly true of the Deschutes National Forest. The Deschutes River (which has raised much local concern with regard to hydro developments), and the Metolius River, in particular are attractors for both Oregon residents and out-of-state tourists, and receive high recreational use by U.S.F.S. measures. The other rivers, Big Marsh, Crescent, Little Deschutes and the Fall River, while receiving more moderate use, currently offer less crowded recreational opportunities. But as other rivers become more crowded, these too may experience even greater recreational demand.

The value of these streams is supported by the recent Pacific Northwest inventory of rivers. The recreational component of this inventory was conducted by Oregon State Parks. One hundred sixty five surveys evaluating some 300 Oregon streams and rivers were received and represent a broad diversity of professional recreational managers and experts at all levels of government as well as representative user groups throughout the state. Recreational values on the rivers were classed on a five point scale with the top two ranks classed as (1) "outstanding recreational resources," and (2) "substantial recreational resources." The Deschutes, Metolius, Little Deschutes, Big Marsh, and the Fall Rivers were classed as "outstanding." (The Crescent was not surveyed).

The Deschutes, Metolius, Little Deschutes, Big Marsh and Crescent were identified as potential scenic rivers in the 1980 Nationwide Rivers Inventory. The Deschutes, Metolius and Little Deschutes were also identified by the State of Oregon. In addition, the state also identified the Fall River.

The division agrees that wild and scenic "recreation" classification for the Deschutes and Metolius above Bridge 99 is appropriate. However, consideration of "scenic" status for the Metolius below Bridge 99 to Lake Billy Chinook may be more appropriate. The current plan gives no consideration to the Fall River though it is considered a candidate for state designation. We would support management of Fall River that would maintain the future options for state designation.

Economic Concerns

Methodology

Each of the eight management alternatives has a calculated Present Net Value (PNV) expressed in millions of dollars. This is the difference between the discounted value (benefits) of all outputs to which the

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monetary values or established market prices are assigned and the total discounted costs of managing the planning area. As such, PNV is a estimate of the total monetary benefits gained through the various mixes of resource tradeoffs across the alternatives.

In formulating these values, a 1 percent per year real price trend for stumpage was used for Forplan harvest scheduling analyses. These were applied for the first fifty years and a 0 percent price trend was used for the remaining 100 years of the planning horizon. A 0 percent real price trend for all other resources was used during the development of the benchmarks and the alternatives. In other words, their future nominal values will change at rates equal to inflation.* According to the plan then, recreational resources will not increase in real value, their contribution to PNV in real dollars remain static throughout the 50 year planning period.

In addition, the contribution of recreational values to PNV were reduced 37.5% for use in comparing resource allocation choices. This was based in part on dissatisfaction with travel cost methods of determining recreational activity values. To arrive at this 37.5% reduction, the following method was used

First it was estimated that nationally, a 5 percent increase in price would result in a 1 percent decrease in quantity of outdoor recreation demanded for a price elasticity of .2

$$P.E. = \frac{\text{quantity demand}}{\text{price demanded}}$$

It was also estimated that in 1982, the Forest Service provided 7.5% of all outdoor recreation and that as a consequence, there will be a 5 percent decrease in price for each percent of the 7.5 percent Forest Market Share or a total decrease of 37.5 percent for clearing the market.* In other words, the increase in supply created by the Forest Service creates a 37.5% decrease in the price of outdoor recreation. For example, the initial value of \$24 for a day of resident trout fishing was reduced to \$15.

Discussion

The methodology used to estimate the current and future value recreational resources merits careful consideration if responsible planning of our shrinking resource base is to occur.

*DEIS Deschutes National Forest, 1986, Appendix B, p 181.

*ibid p. 193 to 194.

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1. Assigning a 0 percent real price trend for all non-timber resources, including recreation flies in the face of economic reality. The demand for much, if not most, outdoor recreation is growing at an accelerated pace.

Skiing and river-dependent recreation are two prime examples of this growth. The supply available for many of these activities is sluggish or even static. It is a well established fact that as demand grows faster than supply, real price increases.

The assumption of a 0 percent real price trend gravely undervalues the contribution of outdoor recreation to the PNV of all the alternatives.

2. Adjusting recreational activity values 37.5 percent downward is clearly erroneous.

The values for many of these activities were generated using Forest Service sites and when Forest Service contributions to the overall supply were present. It is erroneous to assume that the Forest Service land is an addition to quantity which lowers these values when that land was already a part of the total quantity when the values were estimated.

3. A nationwide demand elasticity is likely misrepresentative of the demand elasticity for specific recreation activities and may not be relevant to Oregon and the Deschutes National Forest
4. It is faulty to assume that because nationally the Forest Service provides 7.5% of all outdoor recreation, the same holds true for the Deschutes Forest. Also many of the opportunities offered by the forest have no reasonable substitutes. Mountain climbing, wilderness travel, alpine skiing are examples of this
5. There is no reason to believe that Travel Cost methodology consistently over estimates trip length, and therefore no reason to adjust those values downward as a result of this contention.*

These methods, the 0 percent real growth rate assumption and the further 37.5 percent devaluation of recreation activity values, are erroneous.

*Corroboration of these points are provided in the accompanying comments by Rebecca L. Johnson, Assistant Professor, Resource Economist, Department of Resource Recreation Management, Oregon State University, Corvallis (Exhibit A).

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Their net effect is to seriously confound and underestimate the value of recreational resources and their contribution to Present Net Value. Consideration of resource allocations in the Deschutes Forest will be distorted unless appropriate recreation value estimates are refigured throughout the alternatives.

DE jn
9750C
4/10/86

cc: Al Cook
John Lilly

Exhibit A

COMMENTS ON THE RECREATION VALUES FOR THE DESCHUTES NATIONAL
FOREST PLAN

In summarizing the rationale for adjusting the initial values of the Resource Evaluation Group, the plan states that TCM values need to be adjusted to be comparable with marginal values of other forest outputs (p. 193). The nationwide demand elasticity of 2 is used to show that if the Forest Service increases quantity of outdoor recreation in the nation by 7.5% (their current share of quantity), price should decrease by 37.5%. There are several problems with this logic.

- The prices which are being adjusted downward were estimated when the F.S. land was a part of the total quantity. In fact, many of the studies which were used to generate the recreation values were done for F.S. sites. Studies that were done on non-F.S. sites would frequently have had F.S. sites as substitutes, and regional models would have included these F.S. substitutes directly in the estimation. It is erroneous to assume that the F.S. land is an addition to quantity which will lower these values which were estimated at a time when F.S. land was already a part of the total quantity.
- A nationwide demand elasticity for outdoor recreation may be a poor representation of the elasticity for specific recreation activities. Similarly, the percentage of the total quantity of outdoor recreation in the U.S. that the F.S. land represents may be a poor representation of the percentage that is relevant in the Deschutes National Forest. If adjustments are to be done, an attempt should be made to use regional or Forest-related factors for adjustment whenever possible.

Other reasons stated for adjusting the values downward were related to problems with the TCM, including an assertion that TCM studies typically are done for higher quality sites, substitutes are not accounted for, and trip length is not accurately measured. While any of these may be true for a particular study, several points should be made.

- Values for some activities were based on CVM studies instead of TCM studies. Adjusting these values downward for problems with the TCM is clearly erroneous.
- Not all of the studies used single-site TCM models, and therefore an adjustment for substitutes may or may not be necessary. There is clearly no single factor to adjust all of the values by to account for exclusion of substitutes - it would vary by site.
- Aside from the argument of whether or not TCM studies accurately measure trip length, there is no reason to believe that trip length is consistently over-estimated, and therefore no reason to adjust these values downward as a result of this contention.

If the planners for the Deschutes National Forest are not satisfied with the activity values estimated by the Resource Evaluation Group, they should make an attempt to find recreation valuation studies which have been done in the Pacific Northwest region for specific activities which are provided on their Forest. It appears that planners want recreation values to be comparable to other forest resource values, and therefore the same effect should be made to find values which reflect as accurately as possible the conditions that exist on the Deschutes National Forest.

DE:jn
9750C
4/14/86



OREGON INTERGOVERNMENTAL PROJECT REVIEW

State Clearinghouse
Intergovernmental Relations Division
155 Cottage Street N E
Salem, Oregon 97310

Deschutes County

Phone (503)378-3732 or Toll Free in Oregon 1-800-422-3600

STATE AGENCY REVIEW

Project Number OR 860127-065-4 Return Date MAR 07 1986

ENVIRONMENTAL IMPACT REVIEW PROCEDURES

If you cannot respond by the above return date, please call to arrange an extension at least one week prior to the return date

ENVIRONMENTAL IMPACT REVIEW
DRAFT STATEMENT

- (X) Effects, although measurable, would be acceptable
- () This project has no significant environmental impact.
- () The environmental impact is adequately described
- () We suggest that the following points be considered in the preparation of a Final Environmental Impact Statement
- () No comment

Remarks



Department of Geology and Mineral Industries
ADMINISTRATIVE OFFICE

910 STATE OFFICE BLDG , 1400 SW 5th AVE PORTLAND, OR 97201-5528 PHONE (503)

April 4, 1986

Mr. H. Mike Miller
Dept. of Forestry
2600 State St.
Salem, OR 97310

Dear Mike.

The Oregon Department of Geology and Mineral Industries has prepared the following comments on the Deschutes National Forest Proposed Land and Resource Management Plan. They refer only to portions of the Plan and Draft Environmental Impact Statement dealing with minerals and mineral fuels.

Reviewers in the Department include Dennis Olmstead (oil and gas), George Priest (geothermal), and Jerry Gray (minerals). Total effort involved approximately 50 hours. Aside from a general coordination meeting involving the U.S.F.S. and state agencies, we had no direct contact with U.S.F.S. staff on this review. Submittal of more detailed constructive suggestions and advice or assistance would require more staff availability than is currently at our disposal.

Sincerely,

Donald A. Hull

Donald A. Hull
State Geologist

DAH:ak

Attachment

Agency

Soil & Water

By

George Stuchbert

IPR #5

Review Comments for
Deschutes National Forest Plan
April 4, 1986

(Oregon Department of Geology
and Mineral Industries)

General: In terms of mineral potential and energy potential the plan is lacking meaningful inventory data for minerals and oil and gas. It is vague and inaccurate in its treatment of geothermal potential. Without inventory data specific to the area the plan is misdirected in its assumptions of potential, impacts of development, and tradeoff judgments. The mineral potential of the area does not emerge in a meaningful way in the portrayal of the various alternatives. A partial list of pertinent references that should be consulted is provided.

Energy Minerals

Geothermal:

The rarity of high-quality geothermal sites, those associated with young silicic (rhyolite, rhyodacite) volcanism, needs to be factored into the management process. The two sites in Deschutes Forest which are accessible by road and which fall into this category are the Devils Lake-Sparks Lake area and Newberry Crater. There are only a few of these areas in the United States and an even smaller number of them are accessible by road. The high resource potential and rarity of these sites seems inadequately addressed in the plan. The recreational opportunities offered at each site are orders of magnitude less rare than the unique geothermal resource characteristics. The impression one receives from the plan is that recreation, scenic views, and possible natural study areas are, in every case, more unique and more valuable than the large potential geothermal resources. This overall philosophy needs to be reexamined in the context of the national rarity and economic value of the geothermal resources.

In the Management Plan, alternatives do provide for geothermal leasing, but geothermal development does not have its own "management area" so must be considered as an additional use in other management areas. For example, "undeveloped recreational" areas around Newberry Crater would also be available for geothermal leasing and development, under some of the alternatives.

In the Reviewer's guide (p. 40, 48, 57), the Management Plan (p. 18, 64, 66), and insert maps, there is no obvious reason for not permitting geothermal leasing in

any area, particularly roaded, non-wilderness areas such as Newberry Crater. If the potential resource is deemed less valuable than the potential impact on the scenic value of a particular area, then specify that the area by No Surface Occupancy, but still allow leasing. This would allow companies who wish to try to directionally drill into sensitive areas to do so into leases which they own. It would also open up the possibility of drilling some minimum-disturbance temperature gradient holes in roaded sensitive areas to test for targets which might be reachable by directional drilling.

If there is a concern that withdrawal of fluids will somehow degrade the scenic or recreational value, then the above suggestion will not be feasible. Experience in other volcanic geothermal fields indicates that there is likely to be little or no impact at the surface. The rigid volcanic and crystalline rocks underlying the entire forest are unlikely to subside very much as a result of fluid withdrawal. The hot springs in the Newberry area are the result of heating of relatively shallow ground water by various volcanic gases. This is unlikely to be very strongly affected by tapping into the hydrothermal system. In any case, the Newberry hot springs are not a major part of the scenic or recreational resource.

In summary, the USFS should place reasonable restrictions on surface uses, but disallowing use of subsurface should be based on a proven potential impact on the surface. No such impact has been shown for the case of drilling directional geothermal production holes under environmentally sensitive areas in volcanic terrane. There is therefore no reason to disallow competitive leasing on any area as long as surface use restrictions are clearly spelled out. The restrictions will affect the monetary value of the leases; some areas will probably receive no bids based on current drilling technology. These areas may get bids in the future as the technology improves, but the USFS is hardly qualified to judge which areas are technologically feasible for drilling. The market should decide this.

In reference to the Reviewer's Guide, p. 73, there is no accurate estimate on the life of a geothermal field in relationship to the recharge of both heat and fluids. Some areas with very active magmatic and hydrologic recharge could provide hydrothermal fluids for essentially an infinite period in terms of historic time, depending on the rate of discharge and reinjection. The resource could be considered renewable in this case. There is at present no data

for the resources in the Deschutes Forest which would either prove or disprove this hypothesis. Classification of the resource as "irretrievable" is premature for this area.

The Management Plan does not clearly spell out whether a geothermal plant will be allowed in various management areas which are not wilderness or otherwise exempted from leasing. For instance, Management Area 2-H and 11 cover the accessible part of the Devils Lake-Sparks Lake geothermal resource area, but there are no clear guidelines about what sort of geothermal plant design would be appropriate for these areas. Is a steam plume a major impact on the visual resource? Would a low-profile, low-noise geothermal plan screened by trees from roads and trails be an appropriate design for these areas? A clear statement on this issue needs to be made for each land classification.

Oil and Gas:

Oil and gas exploration has been all but ignored in the plan. While little hydrocarbon exploration can be expected near term, it should be allowed in most of the Management Areas, with the proper controls and restrictions.

Metallic and Industrial Minerals:

For metallic and industrial minerals a map portrayal of existing quarry and aggregate sites is provided. There is no portrayal, however, of claims, mineral leases, resource data, geophysical data, or geochemical data. A general mineral inventory performed by DOGAMI for the U.S. Forest Service in 1977 was not utilized for basic mineral occurrence data.

All alternatives need a statement about metallic and industrial mineral assessment and exploration. The alternatives have largely ignored non-energy minerals. Provision should be made for exploration under several of the Management Areas, Management Area 8 (forest use), for example.

In the Plan, page 67, the idea is presented that "the Forest should intensify exploration to determine if new 'proven' mineral reserves can be identified." Thus, the Plan elaborates on each Management Area, but only two, Areas 2 and 6, contain a discussion of minerals. It is clear that metallic and industrial minerals have been largely overlooked in the preparation of the Plan. There are many silicic volcanic features in the National Forest, and while most have not been studied, these types of features frequently have epithermal gold resources. One such area, in section 9, T. 23 S., R. 15 E., is an opal mine site. To determine the level of interest in metallic minerals in the

Forest, the "Bureau of Land Management Mining Claims Recordation" should be cited and claims should be shown on an insert map. This reference is available on microfilm from the state BLM office in Portland.

The DEIS, like the Management Plan dismisses metallic minerals by saying "there is relatively low potential for metallic (locatable) minerals" (p. 179). While this may be true, the chance of both metallic and industrial minerals exists and exploration, with restrictions if necessary, should be provided for in most Management Areas. In Appendix E, Rivers, again no minerals are indicated. Until exploration has been done, the area should not be ruled out in terms of potential.

ADDITIONAL REFERENCES

- Causey, J.D., 1982, Mineral resources of the Mount Washington Wilderness, Deschutes, Lane, and Linn Counties, Oregon, U.S. Bureau of Mines Open-File Report MLA 38-82
- Causey, J.D., and Willett, S.L., 1981, Mineral Resources of the Three Sisters Wilderness, Deschutes, Lane, and Linn Counties, Oregon, U.S. Bureau of Mines Open-File Report MLA 22-82
- MacLeod, N.S., Taylor, E.M., Sherrod, D.R., Walker, G.W., Causey, J.D., and Willett, S.L., 1983, Mineral resource potential map of the Three Sisters Wilderness, Deschutes, Lane, and Linn Counties, Oregon, U.S.G.S. Open-File Report 83-659
- U.S. Bureau of Land Management, 1986, BLM Mining Claims Recordation, microfilm
- U.S. Geological Survey, 1984, Wilderness Mineral Potential, U.S. G.S. Professional Paper 1300, vol. 2



OREGON STATE
LAND BOARD

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Division of State Lands

1445 STATE STREET, SALEM OREGON 97310 PHONE 378-3805

March 31, 1986

Dave Stere, Director
Forest Resources Planning
Forestry Department
2600 State Street
Salem, OR 97310

Re National Forest Planning Response Coordination
Deschutes National Forest

Dear Dave

Staff of the Division of State Lands have reviewed the Proposed Land and Resource Management Plan for the Deschutes National Forest, and have identified the following issues that should be addressed in formulating the coordinated state response

1. State-Owned Uplands

The Division of State Lands holds the title to seven parcels surrounded by and adjacent to U.S. Forest Service Land. Two parcels are completely surrounded by Forest Service Land and five parcels are immediately adjacent to U.S. Forest Service Land. It may be appropriate to consider expressing interest in exchanging title of these lands for the purpose of blocking ownership.

2 Submerged and Submersible Land Ownership

The Division of State Lands has a potential claim on the submerged and submersible land under Blue Lake, Suttle Lake, Cultus Lake, Little Cultus Lake, Davis Lake, Paulina Lake and East Lake all within the Deschutes National Forest. Permanent uses and facilities in these lakes, including marinas, may require leases from the Division of State Lands.

3. Natural Heritage Issues

The draft EIS identifies a variety of rare and endangered species and proposed Research Natural Areas in the Deschutes National Forest. The Division of State Lands would like to see the inventories of rare and endangered species locations and evaluations, as well as inventory and evaluation of Research Natural Areas, be coordinated with the Natural Heritage Advisory Council. The proposal for establishment of Research Natural Areas and protection of rare and endangered species should be coordinated with Oregon's Natural Heritage Plan.

4 Stream Alterations

One issue not discussed in the draft EIS is the streambank erosion problem between Wickiup Reservoir and Benham Falls. This erosion problem results in loss of fish habitat and degradation of water quality possibly due to irrigation withdrawals for the North Unit Irrigation District water supplies. A permanent solution to fishery habitat losses and streambank erosion should be coordinated with the Division of State Lands and subject to the Removal-Fill Law permit requirements

A second concern of the Division of State Lands is loss of instream habitat from stream alteration along the Deschutes River between Pringle Falls and Sunriver. Only a minor number of these alterations, if any, occur on U.S. Forest Service Lands. Any land exchanges that would result in recreational development of these lands should be closely coordinated to insure that bank alteration complies with state Removal-Fill Law requirements. Recreational users of U.S. Forest Service lands along these properties should also be informed of the Removal-Fill Law requirements.

The Land and Resource Management Plan does not have a fishery habitat plan that identifies the potential for instream habitat improvement projects. Identification of the management program for these resources and coordination of these projects through the Fish Habitat Enhancement waiver rules of the Division of State Lands could be an important aspect of resource management of the Deschutes National Forest

We appreciate this opportunity to comment, and will be prepared to discuss our remarks in more detail at the next meeting. In the meantime, if you have questions or if I may be of further assistance, please let me know.

Very truly yours,



Martha O. Pagel
Deputy Director

MOP/dr
0739f

cc Ron Geitgey
Geology and Mineral Industries
John Jackson
Dept. of Environmental Quality
Jake Szramek
Water Resources
Jim Knight
DLCD
Mike Byers
Energy
Delores Streeter
Intergovernmental Relations
Bob Brown
Forestry
Dan Carlson
Fish and Wildlife
John Lilly
Transportation
Parks and Recreation
George Stubbett
Agriculture
Dave Fiskum
Economic Development
Ann Nolan Hanus
State Economist



STATE OF OREGON

INTEROFFICE MEMO

Intergovernmental Relations Division - A-95
April 8, 1986
Page Two

TO Intergovernmental Relations Division - A-95 DATE April 8, 1986

FROM William H. Young, Director, Water Resources Department

SUBJECT Comments - Deschutes National Forest Plan

The Water Resources Department has reviewed the Proposed Land and Resource Management Plan for the Deschutes National Forest. Our comments follow.

General Comments

The alternative management plans all appear to provide forest management practices consistent with sound water resources management. The Upper Deschutes River Basin has been withdrawn from further water appropriation. Each of the management plans appear to take this limitation into consideration with respect to future development.

Specific Comments

DEIS

Pages 177-178

We suggest that the section on water resources be expanded to incorporate the Deschutes Basin Program for the Upper Deschutes River (enclosed). This program refers to potential water management policy directives for streams (p. 177), lakes (p. 177) and water uses (p. 178). As a part of forest planning process, these program statements need to be addressed because water use is restricted in the upper basin both by policy and actual supplies and potential projects would require alternative water sources.

Page 178, Column 2, 1st Paragraph

The text mentions the withdrawal of the upper basin as "1969". This statement should be "1913".

Page 178

The text mentions many streams are being evaluated for low head hydro and a list appears in Appendix G, page 529, Table 10. We suggest this list be modified to reflect current hydro policy in the Deschutes as listed in ORS 543.165 (copy enclosed) and other state requirements such as water rights, the upper basin withdrawal order and hydro rules OAR 690, Division 50. We encourage continued cooperation between the U.S. Forest Service and the state to assure compatibility between revisions in the forest plan or changes in state water resources policy.

Pages 214-219, Geothermal

The section on geothermal resources should be expanded to include the state's geothermal rules OAR Chapter 690, Division 65 in any leasing application agreement (copy enclosed).

Proposed Land and Resource Management Plan

Page 61, Special Uses - Non Recreational Permits #2

The section on non-recreational permits should be modified to reflect state policy on hydroelectric projects listed in ORS 543.165. This law will have major effect on any application for a license in the Upper Deschutes Basin.

Page 77, Water

The text mentions that the U.S. Forest Service (USFS) will work closely with the watermaster during any period of drought to make sure reservoirs are filled. We suggest that this section be expanded to include the cooperation with any state task force established to respond to drought conditions.

Appendices

Appendix G

In addition to the USFS and the Bureau of Land Management special conditions and stipulations for geothermal development, applicants will also be required to comply with the state standards for geothermal wells listed in OAR Chapter 690, Division 65, State of Oregon.

33530

Appendix J-17

BEFORE THE WATER POLICY REVIEW BOARD

OF THE

STATE OF OREGON

In the matter of formulating an)
integrated, coordinated program) Deschutes River Basin
for the use and control of the)
water resources of the Deschutes) November 29, 1984*
River Basin)

WHEREAS the State Water Resources Board under the authority of ORS 536.300 completed a study of the Deschutes River Basin;

WHEREAS results of that study were published in State Water Resources Board Report, Deschutes River Basin, dated January 1961;

WHEREAS the Water Policy Review Board under the authority of ORS 536.340 may reclassify the water resources of the Deschutes River Basin;

WHEREAS the Water Policy Review Board under the authority of ORS 536.300 and 536.340 has undertaken a restudy of the water resources of the Deschutes River Basin;

WHEREAS in this study consideration was given to means and methods of augmenting, conserving, and classifying such water resources, existing and contemplated needs and uses of water for domestic, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses, and for pollution abatement as well as other related subjects including drainage, reclamation, and flood control; and

WHEREAS as a result of said study the following findings have been reached by this Board:

1. The total quantity of water is sufficient on an average year basis to satisfy all existing and contemplated needs and uses of water with the exception of utilization of water to minimize pollution.
2. Flows are not sufficient on many streams during the summer months of average water years to supply existing and future demands.
3. Simultaneous use of a major portion of existing consumptive rights results in flows at or near the zero level on some streams during the summer months.

* Modifies Deschutes Basin Programs dated February 20, 1962; May 24, 1962; April 3, 1964; May 26, 1967; July 7, 1978; January 10, 1980; April 1, 1980 and April 4, 1981.

4. Augmentation of the water resources can be achieved through storage of surplus winter and spring runoff; reduction of storage, channel, and transmission losses; and more efficient use of presently appropriated water.
5. There are physically feasible storage sites in the basin.
6. Unappropriated waters of the Deschutes River and its tributaries above Bend, Tumalo Creek above Columbia-Southern Canal, Crooked River, Ochoco Creek and White River and its tributaries have been withdrawn for special uses.
7. The established limited purposes of existing storage developments restrict multiple beneficial use of the water resources.
8. The existence of ground water has been established in certain sections of the basin, but quantities have not been determined.
9. Domestic, livestock, and municipal uses of water, while important, represent minor quantities in existing and contemplated future water use.
10. Irrigation is and will continue to be the major consumptive water use in the basin.
11. Adequately irrigated agricultural lands represent only a small portion of the total irrigated area.
12. The existing irrigated acreage could be more than doubled providing an adequate supply of water were available.
13. The basin has substantial potential for power development.
14. The basin has potential for industrial development.
15. Sufficient water will not be available in many locations for major water-using industries without provision for seasonal storage, acquisition of existing rights, or development of ground water resources.
16. The use of water for mining purposes is slight and is not expected to increase materially in the foreseeable future.
17. Recreation is a major use of water and an important factor in the economy of the basin.
18. There is an abundance of reservoirs, lakes and streams available for water-based recreation in the western portion of the basin.
19. There is potential for more extensive use of existing waters for recreation purposes.

20. In the area of intermittent streams, reservoirs provide water-based recreation.
21. Water consumption by wildlife does not represent a significant quantity.
22. A major conflict exists between irrigation and fish life use of water.
23. A major conflict exists between power and fish life use of water.
24. Reduction of present reservoir and stream level fluctuations, maintenance of minimum reservoir levels and improved streamflows would enhance fish life and recreation.
25. River related recreation is important to the economy of the upper Deschutes Basin.
26. The support of resident and stocked fish is essential to river-related recreation.
27. Recommended base flows suggested by fisheries agencies are substantially higher in many locations than flow levels that can be obtained during average water years under current stream regimen and existing water rights and priorities.
28. Storage and scheduled releases of excess winter and spring runoff, reduction of channel and transmission losses, or acquisition of some existing rights would be necessary to obtain the flows recommended by fisheries agencies. The economic feasibility of such measures has not been determined.
29. Pollution of surface and ground water is not a significant problem at present.
30. Floods, drainage and streambank erosion are not major problems.
31. Major foreseeable quantitative uses of water in the Deschutes River Basin will be for irrigation, power, recreation, and fish life uses.
32. Utilization of flows to minimize pollution should not be permitted if such use limits or conflicts with the multiple-purpose concept.
33. Establishment of restrictions on further appropriations would prevent an increase in depletion potential on some streams which would aid in maintaining minimum flows.
34. Where streams are seasonally overappropriated, the establishment of restrictive actions would have no immediate physical effect until additional flows become available.

35. Criteria for determination of desirable base flows commensurate with all beneficial uses have not been developed. Flow levels for recreational use may be substantially greater than flows recommended for the support of aquatic life.
36. It is imperative that single-purpose development of available sites does not preclude optimum utilization of the resource.
37. Certain major rivers, or river sections, and numerous lakes, minor streams, and creeks are by nature of their physiography, location, land ownership, or economic potential available only for limited resource uses.
38. Physical features, degree of economic development, and water use requirements vary from subbasin to subbasin.

NOW THEREFORE BE IT RESOLVED that for reason of variance in physical features, degree of economic development, and water use requirements from subbasin to subbasin, the Board adopts the following findings and issues program statements for each of the subbasins of the Deschutes River Basin.

UPPER DESCHUTES RIVER

WHEREAS the State Water Resources Board under the authority of ORS 536.300 has undertaken a study of the Upper Deschutes River Basin as delineated on State Water Resources Board Map, File 5.7014;

WHEREAS in this study consideration was given to means and methods of augmenting, conserving and classifying such water resources, existing and contemplated needs and uses of water for domestic, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses, and for pollution abatement as well as other related subjects including drainage, reclamation, and flood control; and

WHEREAS as a result of said study the following findings have been reached by this Board:

1. The total quantity of water is sufficient on an average-year basis to satisfy all existing and contemplated needs and uses of water with the exception of utilization of water to minimize pollution.
2. There is not enough water legally available on a critical-year basis to meet existing and contemplated consumptive needs within this basin.
3. Maldistribution exists with regard to physical location and with respect to availability during time of need.
4. Many streams do not provide enough flow for present nonconsumptive public uses in periods of relatively low as well as critical flow.

5. Augmentation of the water resources in periods of need would require storage of surplus runoff.
6. There are physically feasible storage sites in the basin.
7. The existence of ground water has been established in certain sections of the basin, but quantities have not been determined.
8. All unappropriated waters of the Deschutes River and its tributaries above Bend have been withdrawn by the State Engineer for domestic, irrigation and power purposes.
9. A major portion of the withdrawn waters has been appropriated.
10. There is need to insure water for domestic, livestock, and municipal uses which, while small, are of benefit to the state.
11. Irrigation use of water is small in this basin and is not expected to increase materially in the foreseeable future.
12. Substantial quantities of water have been appropriated for irrigation use in downstream basins.
13. Power development appears to be economically and physically feasible.
14. There is limited potential for industrial use of water.
15. There are no existing water rights for mining operations in the basin. Potential for such use of water appears to be minor.
16. The basin has potential for expanded recreation use of water. The natural lakes and reservoirs constitute valuable recreation assets.
17. Water consumption by wildlife does not represent a significant quantity.
18. There are no anadromous fish in the basin, but resident fish constitute an important asset of the state.
19. There is potential for development of anadromous fish, but this cannot be achieved without the improvement of fish passage and low-flow conditions.
20. Conflicts exist between fish life and irrigation uses of water.
21. Pollution of surface and ground water is not a significant problem.
22. Drainage and reclamation of drained lands are not significant factors in present and contemplated water use.
23. Flood problems are minor.

24. Utilization of flows to minimize pollution should not be permitted if such use interferes with the multiple-purpose concept.
25. Certain lakes are, by nature of their physiography, location, land ownership, or economic potential available only for limited resource use.
26. The maximum beneficial use of the waters of the Upper Deschutes River Basin will be for domestic, livestock, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses.

NOW THEREFORE BE IT RESOLVED that this Board hereby adopts the following program in accordance with the provisions of ORS 536.300(2) pertaining to the water resources of the Upper Deschutes River Basin:

- A. The maximum economic development of this state, the attainment of the highest and best use of the waters of the Upper Deschutes River Basin, and the attainment of an integrated and coordinated program for the benefit of the state as a whole will be furthered through utilization of the aforementioned waters only for domestic, livestock, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses and the waters of the Upper Deschutes River Basin are hereby so classified with the following exception:

The maximum economic development of this state, the attainment of the highest and best use of the waters of the natural lakes of the Upper Deschutes River Basin, except for Crescent Lake, and the attainment of an integrated and coordinated program for the benefit of the state as a whole will be furthered through utilization of the aforementioned waters only for domestic, livestock, irrigation of lawn or noncommercial garden not to exceed one-half acre in area, power development not to exceed 7 1/2 theoretical horsepower, recreation, wildlife and fish life uses and the waters of the natural lakes, Upper Deschutes River Basin, except for Crescent Lake, are hereby so classified.

- B. To support aquatic life and minimize pollution, in accordance with Section 3, Chapter 796, Oregon Laws, 1983, no appropriation of water shall be made or granted by any state agency or public corporation of the state for waters of the Upper Deschutes River and tributaries when flows are below the levels specified in Table 1. This limitation shall not apply to.

1. Human and livestock consumption.
2. Water legally released from storage.

Attainment of the specified flow levels during some portions of the year will require development of water storage or implementation of other measures to augment flows.

- C. Applications for the use of the waters of the Upper Deschutes River Basin shall not be accepted by any state agency for any other use and the granting of applications for such other uses is declared to be prejudicial to the public interest and the granting of applications for such other uses would be contrary to the integrated and coordinated program for the use and control of the water resources of the state.
- D. Rights to use of water for industrial or mining purposes granted by any state agency shall be issued only on the condition that any effluents or return flows from such uses shall not interfere with other beneficial uses of water.
- E. Structures or works for the utilization of the waters in accordance with the aforementioned classifications are also declared to be prejudicial to the public interest unless planned, constructed and operated in conformity with applicable provisions of ORS 536.310 and any such structures or works are further declared to be prejudicial to the public interest which do not give proper cognizance to the multiple-purpose concept.

MIDDLE DESCHUTES RIVER

WHEREAS the State Water Resources Board under the authority of ORS 536.300 has undertaken a study of the Middle Deschutes River Basin as delineated on State Water Resources Board Map, File 5.701A.

WHEREAS in this study consideration was given to means and methods of augmenting, conserving, and classifying such water resources, existing and contemplated needs and uses of water for domestic, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses, and for pollution abatement as well as other related subjects including drainage, reclamation, and flood control; and

WHEREAS as a result of said study the following findings have been reached by this Board:

1. The total quantity of water is sufficient on an average-year basis to satisfy all existing and contemplated needs and uses of water in this basin with the exception of utilization of water to minimize pollution.
2. Maldistribution exists with regard to physical location and with respect to availability during time of need.
3. Simultaneous use of a major portion of existing consumptive rights results in flows at or near the zero level on many streams during the summer months.

TABLE 1
Minimum Perennial Streamflows
(Cubic Feet per Second)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Priority Date
<u>Deschutes River - to be maintained from Wickiup Reservoir to the confluence of the Little Deschutes River</u>	300	300	300	300	300	300	300	300	300	300	300	300	11-3-83
<u>Deschutes River - to be maintained from Little Deschutes River to the confluence of Spring River</u>	400	400	400	400	400	400	400	400	400	400	400	400	11-3-83
<u>Deschutes River - to be maintained from Spring River to North Canal Dam at Bend</u>	660	660	660	660	660	660	660	660	660	660	660	660	11-3-83

4. The existence of ground water has been established in certain sections of the basin, but quantities have not been determined.
5. There are legislative restrictions on the use of waters of Tumalo Creek.
6. There is need to insure water for domestic, livestock and municipal uses which, while small, are of benefit to the state.
7. Irrigation is and will continue to be the major consumptive use of water.
8. Natural flow and present degree of regulation are insufficient to satisfy existing irrigation requirements.
9. Water supply will be a limiting factor in developing potential irrigable land.
10. Augmentation of the water resources in periods of need can be achieved through storage of surplus winter and spring runoff; reduction of storage, channel, and transmission losses; and more efficient use of presently appropriated water.
11. There are physically feasible storage sites.
12. There is substantial potential for power development.
13. The development of the power potential could seriously conflict with recreation and fish life values.
14. There is considerable potential for industrial use of water.
15. Storage and scheduled releases of surplus winter and spring runoff; reduction of channel and transmission losses; or acquisition of some existing rights would be necessary to obtain the waters needed by major water-using industries.
16. Use of water for mining purposes is slight and is not expected to increase materially in the foreseeable future.
17. Recreation is a major use of water.
18. The Metolius River is superior as a natural recreation value.
19. Water consumption by wildlife does not represent a significant quantity.
20. There is inadequate streamflow for fishery requirements.

21. Base flows recommended by fisheries agencies are substantially higher in many locations than flow levels that can be obtained during average water years under current stream regimen and existing water rights and priorities.
22. Pollution of surface and ground water is not a significant problem.
23. Major foreseeable quantitative uses of water will be for irrigation, power, recreation and fish life.
24. Utilization of flows to minimize pollution should not be permitted if such use limits or conflicts with the multiple-purpose concept.
25. Maintenance of minimum perennial streamflows would generally benefit recreation, wildlife and fish life.
26. Criteria for determination of desirable base flows commensurate with all beneficial uses of water have not been developed.
27. Certain river sections, minor streams, creeks and lakes are by nature of their physiography, location, land ownership, or economic potential available only for limited resource use.
28. The maximum beneficial use of the waters of the Middle Deschutes River Basin will be for domestic, livestock, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses.

NOW THEREFORE BE IT RESOLVED that this Board hereby adopts the following program in accordance with the provisions of ORS 536.300(2) pertaining to the water resources of the Middle Deschutes River Basin

- A. The maximum economic development of this state, the attainment of the highest and best use of the waters of the Middle Deschutes River Basin, and the attainment of an integrated and coordinated program for the benefit of the state as a whole will be furthered through utilization of the aforementioned waters only for domestic, livestock, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses and the waters of the Middle Deschutes River Basin are hereby so classified with the following exceptions:
 1. The State Water Resources Board program, Lower Main Stem Deschutes River, adopted April 3, 1964, as modified by the Water Policy Review Board.
 2. The maximum economic development of this state, the attainment of the highest and best use of the waters of the main stem, Metolius River, above river mile 13.0, and the attainment of an integrated and coordinated program for the benefit of the state

as a whole will be furthered through utilization of the aforementioned waters only for domestic, livestock, irrigation of lawn or non-commercial garden not to exceed one-half acre in area, power development, recreation, wildlife and fish life uses and the waters of the main stem, Metolius River, above river mile 13.0, are hereby so classified.

3. Further, no out-of-basin diversions of the waters of the mainstem Metolius River, above river mile 13.0, shall be permitted for any use.
4. No further appropriations except for domestic or livestock uses shall be permitted for waters of the mainstem Deschutes River, from the head of Lake Billy Chinook near river mile 120 to the North Canal Dam near river mile 165.
5. The maximum economic development of this state, the attainment of the highest and best use of the waters of the natural lakes of the Middle Deschutes River Basin, and the attainment of an integrated and coordinated program for the benefit of the state as a whole will be furthered through utilization of the aforementioned waters only for domestic, livestock, irrigation of lawn or noncommercial garden not to exceed one-half acre in area, power development not to exceed 7-1/2 theoretical horsepower, recreation, wildlife and fish life uses.
- B. For the purpose of maintaining a minimum perennial streamflow sufficient to support aquatic life, no appropriations of water except for domestic or livestock uses shall be made or granted by any state agency or public corporation of the state for the waters of Lake Creek or its tributaries above the confluence of Lake Creek with the Metolius River for flows of Lake Creek below 20 cubic feet per second measured at the mouth of Lake Creek except that this limitation shall not apply to waters legally stored or legally released from storage (priority date - May 24, 1962).
- C. Applications for the use of the waters of the Middle Deschutes River Basin shall not be accepted by any state agency for any other use and the granting of applications for such other uses is declared to be prejudicial to the public interest and the granting of applications for such other uses would be contrary to the integrated and coordinated program for the use and control of the water resources of the state.
- D. Rights to use of water for industrial or mining purposes granted by any state agency shall be issued only on condition that any effluents or return flows from such uses shall not interfere with other beneficial uses of water.
- E. Structures or works for the utilization of the waters in accordance with the aforementioned classifications are also declared to be prejudicial to the public interest unless planned, constructed, and

operated in conformity with the applicable provisions of ORS 536.310 and any such structures or works are further declared to be prejudicial to the public interest which do not give proper cognizance to the multiple-purpose concept.

LOWER DESCHUTES RIVER

WHEREAS the State Water Resources Board under the authority of ORS 536.300 studied the Lower Deschutes River Basin as delineated on State Water Resources Board Map, File 5.7014;

WHEREAS the Water Policy Review Board under the authority of ORS 536.300 and 536.340 has undertaken a restudy of the Lower Deschutes Basin;

WHEREAS in this study consideration was given to means and methods of augmenting, conserving and classifying such water resources, existing and contemplated needs and uses of water for domestic, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses, and for pollution abatement as well as other related subjects including drainage, reclamation and flood control; and

WHEREAS as a result of said study the following findings have been reached by this Board for the tributaries of the Deschutes River within the Lower Deschutes River Basin:

1. The total quantity of water is sufficient on an average-year basis to satisfy existing needs and uses of water with the exception of utilization of water to minimize pollution.
2. Maldistribution exists with regard to physical location and with respect to availability during time of need.
3. Many streams do not provide enough flow for nonconsumptive public uses at present in periods of relatively low as well as critical flow.
4. Simultaneous use of a major portion of existing consumptive rights results in flows at or near the zero level on many streams during the summer months.
5. Flows, unless augmented by storage, would not be sufficient on most streams during the summer months to supply future consumptive and nonconsumptive demands.
6. The existence of ground water has been established in certain sections of the basin, but quantities have not been determined.
7. All unappropriated waters of White River and tributaries have been withdrawn by the State Engineer for special uses.

8. There is need to insure quantities of water for domestic, livestock, and municipal uses which, while small, are of benefit to the state.
9. Irrigation is and will continue to be the major consumptive use of water.
10. Potential exists for the development of the agricultural economy through expanded irrigation.
11. The unavailability of dependable supplies of adequate water in the future would be a restriction on the development of the agricultural potential of the basin.
12. Power development appears to be economically and physically feasible.
13. There is limited potential for industrial use of water.
14. Use of water for mining purposes is slight and is not expected to increase materially in the foreseeable future.
15. Recreation is an important use of water in the basin.
16. Water consumption by wildlife does not represent a significant quantity.
17. Full development of the anadromous fishery potential cannot be achieved without the improvement of fish passage and low-flow conditions.
18. Material improvement of minimum flows for fish life cannot be achieved without the development of surface water storage.
19. Pollution of surface and ground water is not a significant problem.
20. Major foreseeable quantitative uses of water of the Lower Deschutes Basin will be for irrigation, recreation, and fish life.
21. Drainage and reclamation of drained lands are not significant factors in present and contemplated water use.
22. Limited flood problems exist, mainly on the eastern tributaries of the Deschutes River.
23. There are physically-feasible storage sites within the basin.
24. Small reservoirs on minor tributaries could reduce flash floods and streambank erosion and provide late-season irrigation water.
25. Utilization of flows to minimize pollution should not be permitted if such use limits or conflicts with the multiple-purpose concept.

26. Maintenance of minimum perennial streamflows would be in the public interest.
27. Certain lakes are by nature of their physiography, location, land ownership, or economic potential available only for limited resource use.
28. Criteria for determination of desirable base flows commensurate with all beneficial uses of water have not been developed, although information is available on flow requirements for aquatic life.
29. The maximum beneficial use of the waters of the tributaries of the Deschutes River within the Lower Deschutes Basin will be for domestic, livestock, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses.

NOW THEREFORE BE IT RESOLVED that this Board hereby adopts the following program in accordance with the provisions of ORS 536.300(2) pertaining to the water resources of the Lower Deschutes River Basin:

- A. The maximum economic development of this state, the attainment of the highest and best use of the waters of the Lower Deschutes River Basin, and the attainment of an integrated and coordinated program for the benefit of the state as a whole will be furthered through utilization of the aforementioned waters only for domestic, livestock, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses and the waters of the Lower Deschutes River Basin are hereby so classified with the following exceptions:
 1. The State Water Resources Board program, Lower Main Stem Deschutes River, adopted April 3, 1964, as modified by the Water Policy Review Board.
 2. The waters of Boulder Lake in Hood River and Wasco Counties are classified only for domestic and livestock uses; power development not to exceed 7-1/2 theoretical horsepower; recreation, wildlife and fish life uses; and irrigation not to exceed 100 acre-feet annually from water stored in the lake.
 3. The maximum economic development of this state, the attainment of the highest and best use of the waters of the other natural lakes of the Lower Deschutes River Basin, and the benefit of the state as a whole will be furthered through utilization of the aforementioned waters only for domestic, livestock, irrigation of lawn or noncommercial garden not to exceed one-half acre in area, power development not to exceed 7-1/2 theoretical horsepower, recreation, wildlife, and fish life uses and the waters of the natural lakes of the Lower Deschutes River Basin are hereby so classified.

DESCHUTES - UPPER CROOKED RIVER

WHEREAS in this study consideration was given to means and methods of augmenting, conserving and classifying such water resources, existing and contemplated needs and uses of water for domestic, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses, and for pollution abatement as well as other related subjects including drainage, reclamation, and flood control; and

1. The total quantity of water is sufficient on an average-year basis to satisfy all existing rights to water in this basin.
2. There is not enough water on a critical-year basis to meet existing consumptive needs.

TABLE 2
Minimum Perennial Streamflows
(Cubic Feet per Second)

Measured at USGS gage 1A101400 and maintained to the confluence of the White River and Deschutes River													Priority Date
OCT	NOV	DEC	JAN	FEB 1-15 16-29		MAR	APR	MAY	JUN	JUL	AUG	SEP	
60	60	60	60	60	100	145	145	145	100	60	60	60	1-10-80
60	60	60	60	60	95	95	95	95	95	60	60	60	5-24-62

3. Maldistribution exists with regard to physical location and with respect to availability during time of need.
4. Simultaneous use of a major portion of existing consumptive rights results in flows at or near the zero level on many streams during the summer months.
5. Most streams do not provide enough flow for nonconsumptive public uses at present in periods of relatively low as well as critical flow.
6. The existence of ground water has been established in certain sections of the basin, but quantities have not been determined.
7. There is need to insure quantities of water for domestic, livestock, municipal and mining uses which, while small, are of benefit to the state.
8. There are no municipal water systems in the basin.
9. Irrigation is and will continue to be the major consumptive use of water.
10. Most irrigated lands in the basin do not receive an adequate supply of water.
11. Substantially more than the average annual yield of the Upper Crooked River Basin has been withdrawn by the State Engineer for irrigation purposes.
12. Power development appears to be economically and physically feasible.
13. There is limited potential for industrial use of water.
14. Water-based recreation will become a more significant use of water in this basin.
15. Water consumption by wildlife does not represent a significant quantity.
16. Game fish populations are limited because of extreme low flows, high water temperatures, and extensive populations of rough fish.
17. Pollution of surface and ground water is not a significant problem.
18. Drainage and reclamation of drained lands are not significant factors in present and contemplated water use.
19. Flood problems exist mainly on the mainstem of Crooked River.
20. There are physically feasible storage sites within the basin.

21. Small reservoirs on minor tributaries could reduce flash floods and streambank erosion and provide late-season irrigation water.
22. Utilization of flows to minimize pollution should not be permitted if such use limits or conflicts with the multiple-purpose concept.
23. Criteria for determination of desirable base flows commensurate with all beneficial uses of water have not been developed.
24. The maximum beneficial use of the waters of the Upper Crooked River Basin will be for domestic, livestock, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses.

NOW THEREFORE BE IT RESOLVED that this Board hereby adopts the following program in accordance with the provisions of ORS 536.300(2) pertaining to the water resources of the Deschutes - Upper Crooked River Basin:

- A. The maximum economic development of this state, the attainment of the highest and best use of the waters of the Deschutes - Upper Crooked River Basin, and the attainment of an integrated and coordinated program for the benefit of the state as a whole will be furthered through utilization of the aforementioned waters only for domestic, livestock, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses and the waters of the Deschutes - Upper Crooked River Basin are hereby so classified.
- B. Applications for the use of the waters of the Deschutes - Upper Crooked River Basin shall not be accepted by any state agency for any other use and the granting of applications for such other uses is declared to be prejudicial to the public interest and the granting of applications for such other uses would be contrary to the integrated and coordinated program for the use and control of the water resources of the state.
- C. Rights to use of water for industrial or mining purposes granted by any state agency shall be issued only on condition that any effluents or return flows from such uses shall not interfere with other beneficial uses of water.
- D. Structures or works for the utilization of the waters in accordance with the aforementioned classifications are also declared to be prejudicial to the public interest unless planned, constructed, and operated in conformity with the applicable provisions of ORS 536.310 and any such structures or works are further declared to be prejudicial to the public interest which do not give proper cognizance to the multiple-purpose concept.

DESCHUTES - LOWER CROOKED RIVER

WHEREAS the State Water Resources Board under the authority of ORS 536.300 has undertaken a study of the Deschutes - Lower Crooked River Basin as delineated on State Water Resources Board Map, File 5.7014;

WHEREAS in this study consideration was given to means and methods of augmenting, conserving, and classifying such water resources, existing and contemplated needs and uses of water for domestic, livestock, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses and for pollution abatement as well as other related subjects including drainage, reclamation, and flood control; and

WHEREAS as a result of said study the following findings have been reached by this Board:

1. The total quantity of water is sufficient on an average year basis to satisfy all existing and contemplated consumptive needs and uses of water.
2. There are streams within the basin whose average annual yield is not sufficient to satisfy existing rights.
3. Maldistribution exists with regard to physical location and with respect to availability during time of need.
4. Simultaneous use of a major portion of existing consumptive rights results in flows at or near the zero level on many streams during the summer months.
5. Most streams in the basin do not provide enough flow for nonconsumptive public uses at present in periods of relatively low as well as critical flow.
6. The existence of ground water has been established in certain sections of the basin, but quantities have not been determined.
7. There is need to insure water for domestic, livestock, municipal and mining uses which, while small, are of benefit to the state.
8. Irrigation is and will continue to be the major consumptive use of water.
9. There is additional potential for irrigation use of water.
10. Power development appears to be economically and physically feasible.
11. There is potential for industrial use of water.
12. Sufficient water will not be available in many locations for major water-using industries without the provision of seasonal storage.
13. Reservoirs will provide a major portion of water-based recreation.
14. The waters of the Crooked River, including Opal Springs, from river mile 6.5 to river mile 18.0, are a valuable source of municipal, irrigation, and industrial water.
15. Little potential for enhancement of fish life exists and is dependent upon securing adequate streamflow.
16. Increases of population and the need to serve presently unsewered areas will require municipal sewerage works to be expanded.
17. Limited flood problems exist.
18. A coordinated plan of operation of Ochoco and Prineville Reservoirs will materially alleviate flood damages in the Prineville Valley.
19. There are physically feasible storage sites within the basin.
20. Small reservoirs on minor tributaries could reduce flash floods and streambank erosion and provide late-season irrigation water.
21. Utilization of flows to minimize pollution should not be permitted if such use limits or conflicts with the multiple-purpose concept.
22. Certain river sections, minor streams and creeks are by nature of their physiography, location, land ownership, or economic potential available only for limited resource use.
23. Criteria for determination of desirable base flows commensurate with all beneficial uses of water have not been developed.
24. The maximum beneficial use of the waters of the Deschutes - Lower Crooked River Basin will be for domestic, livestock, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses.


NOW THEREFORE BE IT RESOLVED that this Board hereby adopts the following program in accordance with the provisions of ORS 536.300(2) pertaining to the water resources of the Deschutes - Lower Crooked River Basin:

- A. The maximum economic development of this state, the attainment of the highest and best use of the waters of the Deschutes - Lower Crooked River Basin, and the attainment of an integrated and coordinated program for the benefit of the state as a whole will be furthered through utilization of the aforementioned waters only for domestic, livestock, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses and the waters of the Deschutes - Lower Crooked River Basin are hereby so classified with the following exceptions:

1. The State Water Resources Board program, Lower Main Stem Deschutes River, adopted April 3, 1964, as modified by the Water Policy Review Board.
 2. No further appropriations of water except for domestic or livestock uses shall be made or granted by any state agency for the waters of Ochoco Creek and its tributaries.
- B. Applications for the use of the waters of the Deschutes - Lower Crooked River Basin shall not be accepted by any state agency for any other use and the granting of applications for such uses is declared to be prejudicial to the public interest and the granting of applications for such other uses would be contrary to the integrated and coordinated program for the use and control of the water resources of the state.
- C. Rights to use water for industrial or mining purposes granted by any state agency shall be issued only on condition that any effluents or return flows from such uses shall not interfere with other beneficial uses of water.
- D. Structures or works for the utilization of the water in accordance with the aforementioned classifications are also declared to be prejudicial to the public interest unless planned, constructed and operated in conformity with the applicable provisions of ORS 536.310 and any such structures or works are further declared to be prejudicial to the public interest which do not give proper cognizance to the multiple-purpose concept.

Dated November 29, 1984

WATER POLICY REVIEW BOARD


Ralf Jakanson, Chairman
WATER POLICY REVIEW BOARD

4929A

HYDROELECTRIC POWER PROJECTS

543 165

permitted by law to hold. A hearing examiner so appointed shall have the same powers with respect to the conduct of the hearing as are granted by law to the commission, including the taking of testimony, the signing and issuance of subpoenas and the administering of oaths and affirmations to witnesses. The hearing examiner shall keep a record of the proceedings on the hearing and shall transmit such record to the commission. The commission may take action upon such record to the same extent as though the hearing has been conducted and presided over by the commission.

(3) The commission may designate any person to take the testimony, affidavit or deposition of a witness. The person so designated may administer an oath or affirmation to any such witness and take the testimony thereof in accordance with such rules as the commission may prescribe.

(4) Witnesses appearing before the commission or any person designated by the commission to take testimony shall be paid the same fees and mileage that are paid to witnesses summoned to appear as such in the courts of this state. (1955 c.673 §2; 1961 c.224 §14; 1985 c.673 §141)

543.060 Investigations, access to project, maps, books and other project data. The Water Resources Commission, the Water Resources Director or any employee of the Water Resources Department, at all reasonable times, shall have free access to any project, addition or betterment during or after construction or acquisition, and to all maps, plans, profiles, estimates, engineers' reports, books, accounts, records and other data relating to the project. (1985 c.673 §142)

543 070 [Repealed by 1975 c.581 §29]

APPROPRIATION OF WATER FOR POWER, APPLICATION OF LAW

543.110 Appropriation and use of water for power is governed by this chapter. After February 26 1931, no right to appropriate or to use the waters of the lakes, rivers, streams or other bodies of water within this state, including water over which this state has concurrent jurisdiction, in connection with the development of any water power project for the generation of electricity, shall be initiated, perfected, acquired or held, except for and during the periods or extensions thereof stated in ORS 543 010 to 543 620 and pursuant to the provisions thereof.

543 120 Water power projects to be in conformity with this chapter. After Febru-

ary 26 1931 no water power project involving the use of the waters of lakes rivers streams or other bodies of water within this state including waters over which this state has concurrent jurisdiction for the generation of electricity shall be begun or constructed except in conformity with the provisions of ORS 543 010 to 543 620

543 130 [Repealed by 1961 c.224 §20]

543 135 [1961 c.100 §2 3 repealed by 1985 c.673 §185]

543 140 Projects or developments constructed by Federal Government excepted from law. The provisions of ORS 543 010 to 543 620 shall not apply to any water power project or development constructed by the United States.

543 150 Municipal corporations and utility districts, applicability of laws, powers of commission respecting districts.

The provisions of ORS 543 010 to 543 620 shall not apply to cities towns or other municipal corporations of this state including utility districts organized under section 12, Article XI, Oregon Constitution and legislation enacted thereunder saving, however, to such cities, towns and other municipal corporations the rights and preferences specified in ORS 543.260, 543.270 and 543 610. The Water Resources Commission shall exercise the powers in relation to utility districts as may be conferred upon the commission by any legislation providing for the creation of such utility districts. (Amended by 1985 c.673 §144)

543 160 Hydroelectric facility on North Santiam River prohibited, exception. (1) No person shall construct or maintain, and no officer or agency of the state shall issue any permit for the construction or maintenance of any hydroelectric facility or structure on the North Santiam River between river mile 27 and Big Cliff Dam.

(2) Nothing in subsection (1) of this section applies to any hydroelectric facility or structure constructed on the North Santiam River prior to October 15, 1983, to the historic uses of such a hydroelectric facility or structure or to the repair or reconstruction of such a hydroelectric facility or structure at the present site. (1983 c.418 §1.2)

Note 543 160 was enacted into law by the Legislative Assembly but was not added to or made a part of ORS chapter 543 or any series therein by legislative action. See Preface to Oregon Revised Statutes for further explanation.

543 165 Hydroelectric facility on part of Deschutes River prohibited. No person state agency local government district or municipal corporation shall construct and no officer or

agency of the state shall issue any permit for the construction of any hydroelectric facility or structure on the Deschutes River between river mile 172 below Lava Island Falls and river mile 227 below but not including Wickup Dam. (1985 c 560 §1)

Note: 543 165 was enacted into law by the Legislative Assembly but was not added to or made a part of ORS chapter 543 or any series therein by legislative action. See Preface to Oregon Revised Statutes for further explanation.

543 170 Hydroelectric facility on Squaw Creek prohibited. No person, state agency, local government, district or municipal corporation shall construct or maintain, and no officer or agency of the state shall issue any permit for the construction or maintenance of any hydroelectric facility or structure on Squaw Creek. (1985 c 560 §2)

Note: 543 170 was enacted into law by the Legislative Assembly but was not added to or made a part of ORS chapter 543 or any series therein by legislative action. See Preface to Oregon Revised Statutes for further explanation.

543 175 Hydroelectric facility on Deschutes River within City of Bend prohibited, exception. (1) Except as provided in subsection (2) of this section, no person, state agency, local government, district or municipal corporation shall construct or maintain, and no officer or agency of the state shall issue any permit for the construction or maintenance of any hydroelectric facility or structure on that portion of the Upper Deschutes River situated within the city limits of the City of Bend except for a facility that meets all of the following criteria:

(a) The facility is located on an existing irrigation diversion facility or structure constructed by persons.

(b) The operation of the facility would not require any water in addition to water appropriated for irrigation purposes.

(c) Operation of the facility would be limited to the period of time during which water is diverted for irrigation purposes and the diversion would not be extended for the purpose of hydroelectric power generation.

(2) Subsection (1) of this section shall not apply to the construction and maintenance of or the issuance of a permit for a hydroelectric facility or structure for which the hearing record is closed on or before the July 12, 1985, whether or not the record is later reopened by or at the direction of the Water Resources Commission for any reason.

(3) As used in this section, "Upper Deschutes River" means that portion of the mainstem Des-

chutes River between the North Canal Dam at approximately river mile 165 and the head waters of the Deschutes River. (1985 c 560 §3)

Note: 543 175 was enacted into law by the Legislative Assembly but was not added to or made a part of ORS chapter 543 or any series therein by legislative action. See Preface to Oregon Revised Statutes for further explanation.

Note: Section 4 chapter 560 Oregon Laws 1985, provides:

Sec. 4 No person, state agency, local government, district or municipal corporation shall construct or maintain and no officer or agency of the state shall issue any permit for the construction or maintenance of any hydroelectric facility or structure on Tumalo Creek before January 1, 1988.

PRELIMINARY PERMITS; LICENSES

543 210 Preliminary permits, application; contents, fee. (1) A preliminary permit may be issued by the Water Resources Commission to any person possessing the qualifications of a licensee as specified in ORS 543 010 to 543 620.

(2) The application for a preliminary permit shall set forth:

(a) The name and post-office address of the applicant;

(b) The approximate site of any proposed dam or diversion,

(c) The amount of water in cubic feet per second,

(d) The theoretical horsepower; and

(e) Any other data the commission may by rule require.

(3) Upon receipt of an application for a preliminary permit the commission shall endorse on the application the date of receipt, and keep a record of the receipt of the application. The date so endorsed shall determine the priority of the use of water initiated under the provisions of ORS 543 010 to 543 620.

(4) At the time of filing application for preliminary permit the applicant shall pay to the state the minimum sum of \$50, and a further sum, not exceeding \$200, as shall be determined by the commission, to cover costs of recording, publishing notices and making investigations necessary to determine whether or not a preliminary permit should be granted. If the commission grants a preliminary permit the applicant shall pay to the state, at the time the preliminary permit is issued, and in addition to the application fee, the sum of five cents for each theoretical horsepower as computed by the commission and covered by the permit. (Amended by 1981 c 224 §15 1985 c 673 §147)

OREGON ADMINISTRATIVE RULES

CHAPTER 690, DIVISION 65 - WATER RESOURCES DEPARTMENT

STANDARDS AND PROCEDURES FOR

LOW TEMPERATURE GEOTHERMAL WELLS AND EFFLUENT DISPOSAL SYSTEMS

65-005 POLICY AND PURPOSE:

(1) All Low Temperature Geothermal Fluids are part of the ground water resources of the State of Oregon and shall be administered by the Water Resources Director (Director) under the provisions of ORS 537.010 to 537.795. The Director recognizes that these fluids are developed primarily because of their thermal characteristics and that special management is necessary. Reservoir assessment of Low Temperature Geothermal Fluids shall be conducted by the Director in the same manner as ground water investigations outlined in ORS 537.665 and ORS 537.685.

(2) The purpose of the following rules is to provide standards and procedures for the development, use and management of Low Temperature Geothermal Fluids, while insuring proper management of all ground water resources so maximum beneficial use of the resource will be most effectively attained.

(3) These rules supplement OAR 690-10-005 to 690-10-045, 690-60-005 to 690-63-045, and 690-64-000 to 690-64-010. Rule 690-60-050, paragraph 47 and 690-61-181 are hereby rescinded.

DELETE:

[690-60-050 (47) "Thermal Ground Water". means ground water having a temperature greater than 90 degrees Fahrenheit or 32 degrees Celsius. (The statutes of Oregon delegate to the Department of Water Resources the appropriation and supervision of thermal ground water having a temperature of less than 250 degrees Fahrenheit or 121 degrees Celsius, and occurring within 2,000 feet of the land surface.)]

[690-61-181 CONSTRUCTION OF THERMAL OR HOT WATER WELLS.

All thermal or hot water wells having a maximum water temperature of less than 250 degrees Fahrenheit (121 degrees Celsius) and constructed to depths of less than 2,000 feet shall be constructed in conformance with rules 690-61-006 through 690-61-176. The bottom-hole temperature shall be measured and recorded on the water well report.]

65-010 DEFINITIONS:

- (1) Bottom Hole Temperature The maximum temperature measured in the well or bore hole. It is normally attained directly adjacent to the producing zone, and commonly at or near the bottom of the borehole.
- (2) Low Temperature Geothermal Effluent The outflow, discharge or waste fluid, with its associated dissolved or suspended constituents (being original or introduced), that is produced by a Low Temperature Geothermal Well and its utilization system.
- (3) Low Temperature Geothermal Fluid
 - (a) Any ground water produced from a Low Temperature Geothermal Well which is used for its thermal characteristics; or
 - (b) any other fluids, approved by the Director, that circulate, with or without withdrawal, within a Low Temperature Geothermal Well, where in all cases of (a) and (b) the fluid circulated because of its thermal characteristics, is used for various heating and/or cooling purposes including, but not limited to, residential, commercial, industrial, electrical, agricultural and aquacultural applications.
- (4) Low Temperature Geothermal ReInjection Well Any well as defined under ORS 537.515(7) that is constructed or used for returning Low Temperature Geothermal Effluent to a ground water reservoir.
- (5) Low Temperature Geothermal Well Any well as defined under ORS 537.515(7) with a bottom hole temperature less than 250°F that is constructed or used for the thermal properties of the fluid contained within.
- (6) Nonstandard Low Temperature Geothermal Effluent Disposal System Any Low Temperature Geothermal Effluent Disposal System in which one or more of the following conditions are met:
 - (a) Any portion of the effluent is disposed of in a manner considered non-beneficial by the Director. This includes, but is not limited to, disposal via storm sewer, drainage hole or direct discharge to land surface or a surface water body.
 - (b) The effluent contains contaminants, other than heat, that have been added to the Low Temperature Geothermal Fluid.
 - (c) The effluent is reinjected to a ground water reservoir that is not considered suitable by the Director. Factors which may render a ground water reservoir unsuitable include, but are not limited to, chemical or physical incompatibility of the fluids involved or adverse hydraulic characteristics of the receiving reservoir.
 - (d) There are existing or potential problems or special conditions as determined by the Director. Problems or special conditions resulting from the effluent disposal system which may warrant a nonstandard designation include, but are not limited to, instability of near-surface earth materials, undue alteration of thermal characteristics, unreasonable head changes or downslope subsurface leakage of effluent.
- (7) Secondary Use Consumption of Low Temperature Geothermal Effluent for beneficial use including, but not limited to, domestic, irrigation, stock watering, commercial and industrial uses.
- (8) Standard Low Temperature Geothermal Effluent Disposal System Any Low Temperature Geothermal Effluent Disposal System in which one of the following conditions are met:
 - (a) No contaminants except heat have been added to the Low Temperature Geothermal Fluid and the effluent is put to a Secondary Use.
 - (b) No contaminants except heat have been added to the Low Temperature Geothermal Fluid and the effluent is returned to the producing or other suitable ground water reservoir and there are no other existing or potential problems or special conditions as determined by the Director including, but not limited to, those factors, problems and conditions listed in 65-010 definition 6, paragraphs c and d.

SUBDIVISION I
WELL CONSTRUCTION STANDARDS

65-015 LOW TEMPERATURE GEOTHERMAL WELL AND REINJECTION WELL CONSTRUCTION. Low Temperature Geothermal Wells and Reinjection Wells shall be constructed in conformance with applicable rules (OAR 690-10-005 to 690-10-040 and 690-60-005 to 690-63-045) with specific additions and modifications as described in OAR 690-65-005 to 690-65-070.

65-020 LOW TEMPERATURE GEOTHERMAL REINJECTION WELL LOCATION For appropriations not exceeding 15,000 gallons per day no Low Temperature Geothermal Reinjection Well shall be located within 75 feet of any existing Low Temperature Geothermal Well utilizing the same ground water reservoir without authorization from the Director, unless both the withdrawal and reinjection wells are on the same parcel of land and are used by the same ground water appropriator. A variance from the 75-foot setback requirement may be issued by the Director, following a written request for special standards (described by 690-60-040) by the water well constructor or landowner, who under the provisions of 537.753, is constructing the well, if hydrologic and thermal conditions permit closer spacing.

For appropriations exceeding 15,000 gallons per day, the appropriator shall submit plans for review to the Director or his authorized representative, indicating separation distances between production and reinjection wells on the parcel of land on which the production well is located, on the parcel of land on which the reinjection well is located, and on all adjoining parcels of land. In addition, the plans shall indicate the anticipated hourly production and reinjection rates, the maximum anticipated daily production, and any planned safeguards against undue thermal and hydrologic interference with existing rights to appropriate ground water and surface water.

65-025 DESCRIPTION OF PROPOSED USE: For any Low Temperature Geothermal Well or Low Temperature Geothermal Reinjection Well, the report required under ORS 537.762 prior to commencing construction shall identify the intended use of the well, the appropriator's name and the appropriator's mailing address.

65-030 IDENTIFICATION OF INTENDED WELL USE: Any Low Temperature Geothermal Well or Low Temperature Geothermal Reinjection Well shall be clearly identified as such on the water well report filed with the Water Resources Department.

65-035 WELL-HEAD PROTECTION EQUIPMENT Adequate well-head equipment to insure public safety and the protection of the ground water resource shall be immediately installed on any Low Temperature Geothermal Well or Low Temperature Geothermal Reinjection Well when fluid temperatures of 65° C (150°F) or greater are encountered during drilling. Low Temperature Geothermal Fluids produced during drilling or testing of such a well shall be disposed of in such a manner as to minimize health hazards. A variance from the requirement for well-head protection equipment may be granted if a written request demonstrates that the equipment is not necessary to safely complete the well.

65-040 PUMP TESTING OF LOW TEMPERATURE GEOTHERMAL REINJECTION WELLS: All Low Temperature Geothermal Reinjection Wells shall be pump tested for a period of at least one hour; results must be recorded on the water well report. This minimum test shall be conducted as follows:

- (1) Prior to testing, the static water level in the well shall be measured and recorded.
- (2) Water shall be pumped into or from the well at a measured and steady rate; the rate shall approximate the maximum anticipated injection rate of the operating well.
- (3) For tests that withdraw water, only bailing or pumping the well is acceptable.
- (4) The water level in the well shall be measured and recorded both at the end of pumping and after one hour of recovery.
- (5) For proposed disposal exceeding 15,000 gallons per day the Director may prescribe a more detailed test that could include, but is not limited to, increased frequency of water level measurement, increased test duration and monitoring of observation wells. Such modifications will be required when possible impacts resulting from the development include, but are not limited to, thermal or hydrologic interference with existing water rights, water quality degradation or failure of well construction.

65-045 WATER TEMPERATURE MEASUREMENT: For any Low Temperature Geothermal Well that withdraws ground water, the water well report must include the maximum temperature measured in the borehole and its corresponding depth, and the temperature of the fluid as measured at the discharge point at the beginning and conclusion of a timed production test (i.e. pump or bailer test - air test unacceptable). The maximum temperature measured in the borehole and its corresponding depth is required on the water well report for a Low Temperature Geothermal Well that does not withdraw ground water.

65-050 ADDITIONAL STANDARDS FOR LOW TEMPERATURE GEOTHERMAL REINJECTION WELLS: Procedures required to reinject effluent into a Low Temperature Geothermal Reinjection Well must not cause failure of casing and seal material or other components of the well construction.

SUBDIVISION 2 LOW TEMPERATURE GEOTHERMAL EFFLUENT DISPOSAL

65-055 EFFLUENT DISPOSAL BY REINJECTION / FLUID QUALITY ASSESSMENT

Prior to reinjection, users required to file for water rights shall supply the Director fluid quality information concerning the Low Temperature Geothermal Fluid, the Low Temperature Geothermal Effluent, and the ground water in the receiving zone of any Low Temperature Geothermal Reinjection Well for systems that withdraw and reinject ground water in order that the Low Temperature Geothermal Effluent Disposal System be classified as Standard or Nonstandard. The required information shall include a certified chemical analysis for the following parameters: Temperature, pH, Suspended Solids, Specific Conductance, Total Dissolved Solids, Total Coliform Bacteria, Arsenic, Boron, Calcium, Carbonate or Bicarbonate, Chloride, Iron, Magnesium, Manganese, Potassium, Silica, Sodium and Sulfate. If poor water quality or water quality incompatible with the reinjection zone fluids is suspected, the Director may require additional specific data. The Director may waive the requirement for specific portions or all of the chemical analysis if the fluid quality is known to be suitable for the intended withdrawal and reinjection.

SUBDIVISION 3
WATER RIGHTS PROCEDURE

65-060 PROCESSING OF APPLICATIONS: The appropriator shall make application for a water right to appropriate Low Temperature Geothermal Fluid unless an exemption is provided for under ORS 537.545.

65-065 EXEMPTION FROM WATER RIGHT PERMIT APPLICATION / USE OF LOW TEMPERATURE GEOTHERMAL FLUID: Low Temperature Geothermal Fluid appropriation for single industrial or commercial use including, but not limited to, electrical, agricultural, aquacultural, heating and/or cooling in an amount not exceeding 5,000 gallons per day shall be exempt from application for a water right as provided for under ORS 537.545. This exemption applies to the use of ground water for any such purpose to the extent that it is beneficial and constitutes a right to appropriate ground water equal to that established by a ground water right certificate.

65-070 WATER RIGHT LIMITATION FOR NONSTANDARD EFFLUENT DISPOSAL SYSTEMS: If the Low Temperature Geothermal Effluent is disposed of by way of a Nonstandard Low Temperature Geothermal Effluent Disposal System, the right to appropriate the Low Temperature Geothermal Fluid shall be inferior to all subsequent rights for beneficial consumptive use and/or to the rights of those appropriators who make use of a Standard Low Temperature Geothermal Effluent Disposal System. If a Nonstandard Low Temperature Geothermal Effluent Disposal System is upgraded to a Standard Low Temperature Geothermal Effluent Disposal System the associated water right retains the priority date established upon initial filing.

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Forestry Department

OFFICE OF STATE FORESTER

2600 STATE STREET, SALEM, OREGON 97310 PHONE 378-2580

MAR 26 1990

March 21, 1990

Norm Arseneault
Deschutes National Forest
1645 Highway 20E
Bend, Oregon 97701

Dear Mr. Arseneault:

As you know, the Deschutes National Forest Draft Environmental Impact Statement assessed the compatibility of the selected alternatives with the plans of others, including the "Forestry Program for Oregon" developed by the Oregon Department of Forestry. On January 3, 1990 the Oregon Board of Forestry adopted a new "Forestry Program for Oregon" (FPFO).

The new FPFO is significantly different than the FPFO analysed in the DEIS. The FPFO (1982) assessed in the DEIS included timber outputs assigned to the various forest landowners, including federal, required to accomplish the coordinated programs contained in the FPFO. The volume figures previously given to the national forests, including the Deschutes National Forest, are no longer part of the FPFO.

The new FPFO focuses on intent, rather than on specific numbers, and reflects a broader interest in all forest uses, rather than focusing on timber production. The objectives of the new FPFO relevant to the Deschutes Forest Plan and FEIS are:

1. Preserve the forest land base of Oregon and assure practical forest practices that conserve and protect soil productivity, and air and water quality by:
 - a. Developing land use recommendations that recognize that forests are dynamic and most forest uses are compatible and that emphasize the integration of forest land uses;
 - b. Encouraging federal agencies to maintain as large and as stable a commercial forest land base as possible and to minimize future withdrawals from this land base,

Norm Arseneault
March 21, 1990
Page 2

c. Recommending that habitat should be managed based upon sound research data and the recognition that forests are dynamic and most forest uses are compatible over time; and

d. Cooperatively establishing forest management standards and regulations for the protection of necessary habitat that are based upon the best knowledge available and that are consistent with responsible forest management;

2. Promote the maximum level of sustainable timber growth and harvest on all forest lands available for timber production, consistent with applicable laws and regulations and taking into consideration landowner objectives by;

a. Promoting timber growth and harvest on public lands in a manner consistent with the governing statutory direction while seeking to meet Oregon's timber needs through the application of enlightened land and resource management.

b. Supporting the use of intensive timber management practices where those practices are professionally, environmentally, and economically sound.

c. Supporting federal policies and initiatives that provide sufficient funding for forest management and timber sale programs on federal lands.

3. Encourage appropriate opportunities for other forest uses, such as fish and wildlife habitat, grazing, recreation and scenic values on all forest lands, consistent with landowner objectives by;

a. Encouraging a full range of recreational opportunities on both public and private lands consistent with landowner objectives.

b. Promoting adequate funding for the full implementation, operation and maintenance of forest recreation facilities, including trails, campgrounds, etc., on public forest lands allocated for forest recreation.

4. Devise and use environmentally sound and economically efficient strategies to protect Oregon's forests from wildfire, insects, disease, and other damaging agents by:

Norm Arseneault
March 21, 1990
Page 3

a. Encouraging cost-effective federal fire management policies that emphasize planned ignition fires over natural ignition fires and that consider impacts to the State of Oregon's forest fire protection program;

b. Encouraging that federal plans which develop and implement fire suppression policies at both the state and national levels be coordinated with the state; and

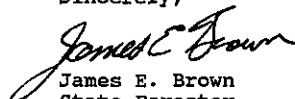
c. Promoting the effective use of integrated pest management as a coordinated approach to the selection, integration and implementation of pest control actions.

Information in the FEIS on the consistency of the selected alternatives with the plans and policies of state agencies is important public information. Since the new FPFO is different from the previous FPFO in both tone and scope, it is very likely that an assessment of the compatibility of the new FPFO with the selected alternatives would result in much different conclusions than those presented in the DEIS. Certainly the number of the issues reviewed for compatibility would be much greater.

As a public document, I believe it is important that the information included in the FEIS be as correct and up-to-date as possible. Therefore, if possible, the Deschutes National Forest FEIS should reflect the significant policy changes recently made to the "Forestry Program for Oregon" by the Oregon Board of Forestry.

I appreciate the consideration you have given to the input provided by the Department of Forestry during the development of the Forest Plan and FEIS. Dave Stere (378-5387) of my staff is available to assist you with regard to the new "Forestry Program for Oregon".

Sincerely,


James E. Brown
State Forester

JEB:tll
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cc: Norm Johnson



Department of Fish and Wildlife
OFFICE OF THE DIRECTOR

506 SW MILL STREET, P O BOX 59, PORTLAND, OREGON 97207 PHONE (503) 229-5406

August 14, 1987

Norm Johnson
Executive Department
155 Cottage St., N.E.
Salem, OR 97310

Dear Norm

My staff has reviewed the public comments to the Wallowa-Whitman, Ochoco and Deschutes National Forests. Our additional comments to the Ochoco and Deschutes National Forests are

1. The Department supports the use of unevenaged timber management
2. I ask that each Forest work with Department biologists to develop area specific standards for open road density, (i.e. winter ranges or important summer ranges).

The Department comments to the Wallowa-Whitman National Forest are more detailed and are attached

Sincerely,


Randy Fisher
Director

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attachment

Appendix J-35



U S ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 SIXTH AVENUE
SEATTLE WASHINGTON 98101

REPLY TO
ATTN OF M/S 443

Lee F. Coonce
Deputy Forest Supervisor
Deschutes National Forest
1645 Highway 20 East
Bend, Oregon 97701

Dear Mr. Coonce:

In accordance with our responsibilities under Section 309 of the Clean Air Act and the National Environmental Policy Act we have reviewed the Draft Environmental Impact Statement and Proposed Land and Resource Management Plan (DEIS and Plan) for the Deschutes National Forest (DNF). The DNF is located in central Oregon and includes 1.6 million acres. The preferred alternative upon which the Plan is based provides for intensive timber management and personal use firewood cutting for parts of the forest. Developed and dispersed recreation would be emphasized. Geothermal leasing would be permitted.

Based on our review we have rated the DEIS EC-2 (Environmental Concerns - Insufficient Information). The basis for our rating is summarized below with details included in the enclosed review report. Our report is divided into two sections providing general and specific comments on each document. Also enclosed is an explanation of our rating system.

Our concerns are that the Plan be consistent with Oregon's adopted Statewide Water Quality Management Plan for Forest Practices required by the Clean Water Act. The Plan and DEIS should reference Oregon's Forest Practices Act and Rules and indicate how they will be complied with in the Plan. This is necessary to ensure that appropriate coordination occurs between the DNF and Oregon's Department of Environmental Quality and Forestry and that water quality standards are met.

The water quality management discussions in both the DEIS and Plan are insufficient to evaluate potential impacts. There are several statements in both documents that indicate riparian areas and water quality are in good condition. However, there is no specific information or data summaries to support the general statements about riparian areas and water quality. The Final EIS and Plan should include this information.

Several of the items identified in this review were discussed in the meeting we had with your staff in Bend on December 2, 1985. The meeting was useful in becoming familiar with issues on the DNF. Subsequent to the meeting we received supplemental water quality monitoring information for


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the DNF from your staff. This information should be included in the Final EIS and Plan. This information provides a good historical description of water quality monitoring. In addition the Final EIS and Plan should include the monitoring plan itself and how it will be used to make forest management decisions.

The intent of our comments is to be constructive. We are confident that, by addressing our concerns and comments, the DNF can present a Final EIS and Plan which clearly shows that important resources will be adequately protected, while providing DNF personnel with the necessary flexibility to manage day to day activities on the ground.

Thank you for the opportunity to review this DEIS and Plan. If you have any questions about our review, please contact Wayne Elson of our EIS and Energy Review Section at (FTS) 399-1463.

Sincerely,


Robert S. Burd
Director, Water Division

Enclosures

cc: USFS, R-1
USFS, R-4
USFS, R-6
Fred Hansen, Oregon DEQ
Mike Miller, Oregon Forestry Dept.
Patrick Wright, USFWS
Sierra Club